Service Manual

Electronic Organ

SX-EX30/EX30L

(M), (MC), (EN), (EI), (EH), (EB), (EF), (EZ), (EW), (EP), (EK), (XL), (XR), (XS), (XD), (X)

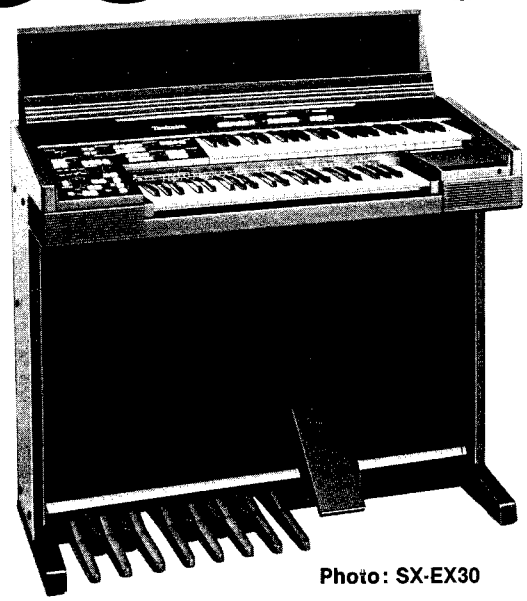

Photo: SX-EX30

AREAS

(M):	U.S.A.	(EP):	Spain
(MC):	Canada	(EK):	the United Kingdom
(EN):	Norway, Sweden, Denmark, Finland	(XL):	New Zealand
		(XR):	Australia
(EI):	Italy	(XS):	Malaysia, Singapore, South Africa
(EH):	Holland		
(EB):	Belgium	(XD):	Saudi Arabia
(EF):	France, Austria	(X):	the Middle East, Indonessia, Hong Kong, the Philippines, Taiwan
(EZ):	Germany		
(EW):	Switzerland		

Specifications

KEYBOARD		UPPER MANUAL: 44 KEYS LOWER MANUAL: 44 KEYS PEDAL KEYBOARD: 13 KEYS
ONE TOUCH PLAY		○
FULLBAND SETTING COMPUTER		RECORD*, FSC, 1~5 (LOWER KEYBOARD)
PLAY SEQUENCER		RECORD*, BASS, LOWER, UPPER, SOLO
VOICE SETTING COMPUTER		RECORD*, SET, 1~7, CANCEL, 16×2 COMBINATION (RHYTHM)
ORCHESTRAL CONDUCTOR		UPPER: POLY, SPECIAL, SOLO LOWER: POLY, SPECIAL, SOLO
UPPER TONES	POLY	PIANO, ELECTRIC PIANO, HARPSICHORD, CLAVI, JAZZ GUITAR, HAWAIIAN GUITAR, SYNTHE, ACCORDION, TROMBONE, CLARINET, STRINGS, SAXOPHONE, ORGAN (RECORD*, 10 ORGAN PRESETS) TAB VOICES: FLUTE 16′, 8′, 4′, 2′ UPPER POLY VOLUME
	SPECIAL	PIANO, ELECTRIC PIANO, HARPSICHORD, CLAVI, JAZZ GUITAR, GUITAR, SYNTHE, FRENCH HORN, SAXOPHONE, TROMBONE, TRUMPET, VIBRAPHONE, SPECIAL VOLUME
	SOLO	FLUTE, PAN FLUTE, SYNTHE, CLARINET, SAXOPHONE, TROMBONE, TRUMPET, VIOLIN, SOLO VOLUME
LOWER TONES	POLY	PIANO, ELECTRIC PIANO, HARPSICHORD, SYNTHE, JAZZ GUITAR, TROMBONE, STRINGS, SAXOPHONE, ORGAN (RECORD*, 10 ORGAN PRESETS) TAB VOICES: FLUTE 8′, 4′, 2′ LOWER POLY VOLUME
	SPECIAL	○ (U/L)
	SOLO	○ (U/L)
BASS TONES		BASS 16′, BASS 16′ +8′, BASS 8′, SYNTHE BASS, ACOUSTIC BASS, CHOPPER BASS, ELECTRIC BASS, TUBA, BASS VOLUME
EFFECTS	SUSTAIN	UPPER, U/L SPECIAL, LOWER, BASS
	CHORUS	UPPER POLY, U/L SPECIAL, U/L SOLO, LOWER POLY
	TREMOLO	
	CELESTE	
	REVERB	○
	GLIDE	FOOT SWITCH
TECHNI-CHORD		ON, CLOSE/PROGRAM, RECORD*
RHYTHM	SELECTORS	MARCH, BALLAD, 8 BEAT, CHA CHA, RHUMBA, JAZZ WALTZ, WALTZ, TANGO, SAMBA, BOSSA NOVA, DISCO Ⅰ, DISCO Ⅱ, 16 BEAT, SALSA, SWING, SHUFFLE
	CONTROLS	SYNCHRO & BREAK, START/STOP, TEMPO, DRUMS VOLUME
FILL IN & INTRO		Ⅰ, Ⅱ, SOLO
ENDING		ON
BASS & ACCOMP		Ⅰ/Ⅱ, MELODIC, ACCOMP VOLUME
PLAY MODE		PCC, FINGERED, MEMORY
PROGRAM CHORD COMPUTER		RECORD*, PCC, (LOWER KEYBOARD)
TRANSPOSE		CONTROL (G~C~F#)
TUNING		○
PROGRAM FUNCTION SWITCH		RECORD*, FOOT SWITCH
MODE SET		RECORD*, MODE SET, MIDI CLOCK, START/STOP, SONG SELECT, SUSTAIN, EFFECT, PROGRAM CHANGE, OCTAVE, MEDLEY
OTHERS		POWER SWITCH, MAIN VOLUME, EXPRESSION PEDAL, HEADPHONE JACK, LINE OUT, AUX IN, MIDI TERMINALS (IN, OUT), EXT I/O (FD) TERMINAL, AC CORD INPUT, INITIAL KEY
OUTPUT		50W
SPEAKERS		20cm 4Ω×1, 6.5cm 8Ω×1, 6.5cm 12Ω×1
POWER REQUIREMENT		100W, AC 120/220/240V, 50/60Hz
		100W, AC 120V, 60Hz (NORTH AMERICA)
DIMENSIONS (W×H×D)		(EX30L) 105.2cm×87.3cm×39.1cm
		(EX30) 105.2cm×87.6cm×40.9cm
NET WEIGHT (Without BENCH)		(EX30L) 36kg (79.4 lbs)
		(EX30) 39kg (86.0 lbs)

*Common RECORD button is used for these buttons.

• Specifications are subject to change without notice for further improvement.

Technics

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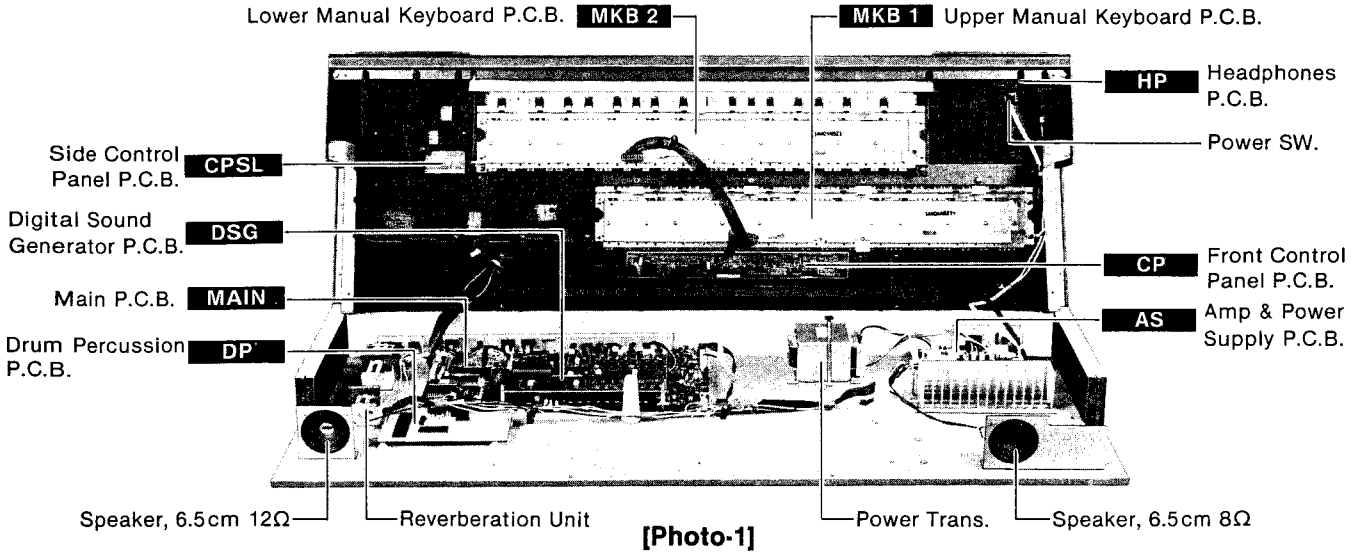
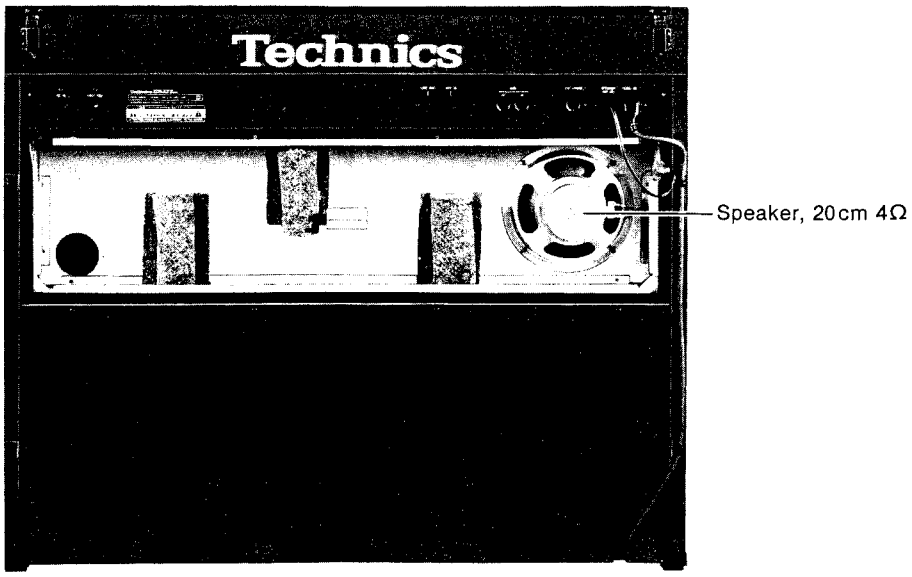
PARTS LOCATION



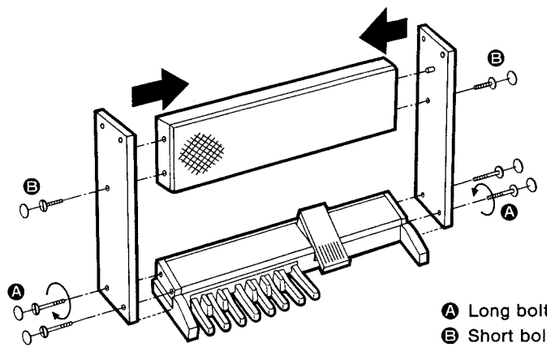
[Photo-1]



[Photo-2]

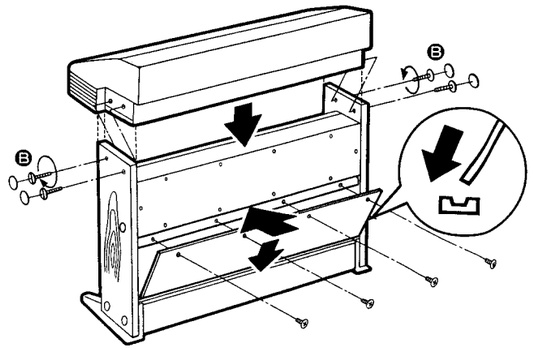
HOW TO ASSEMBLE THE ORGAN

1 Assemble the lower stand part as shown.



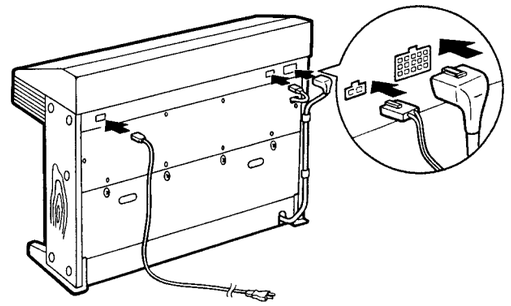
[Fig. 1]

2 Attach the upper organ part to the lower stand part. Then attach the rear panel.



[Fig. 2]

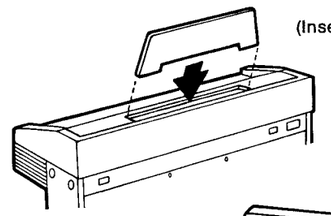
3 Connect the power cord, speaker cord and pedal cord as shown.



[Fig. 3]

4 Set the music rack.

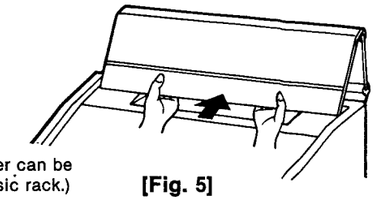
• **SX-EX30L**



(Insert the music rack)

[Fig. 4]

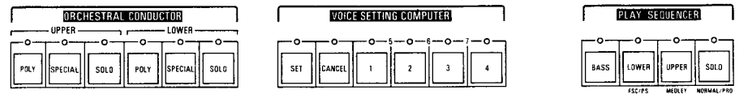
• **SX-EX30**

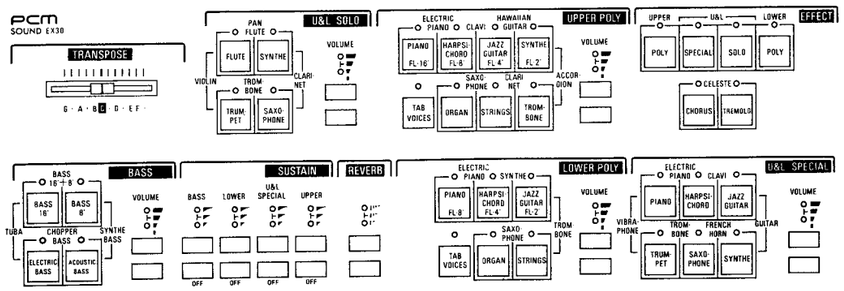


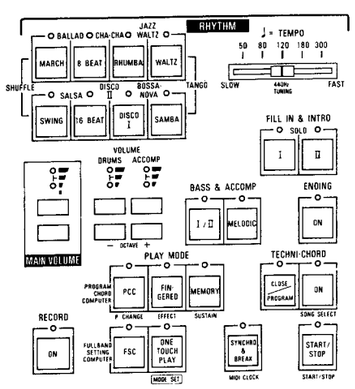
(Keyboard cover can be used as a music rack.)

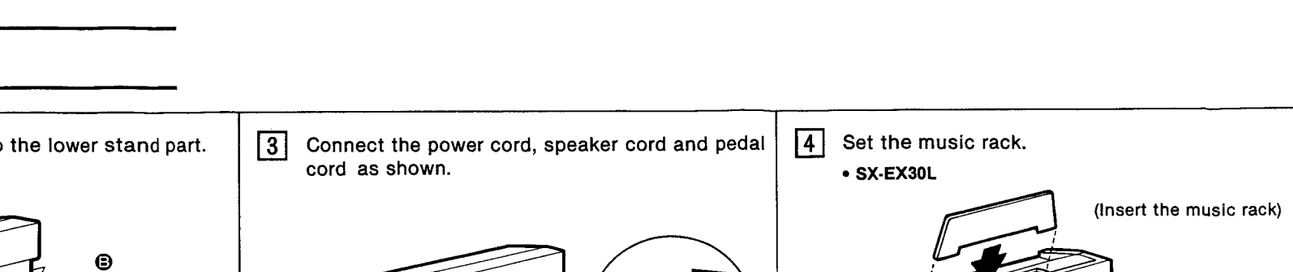
[Fig. 5]

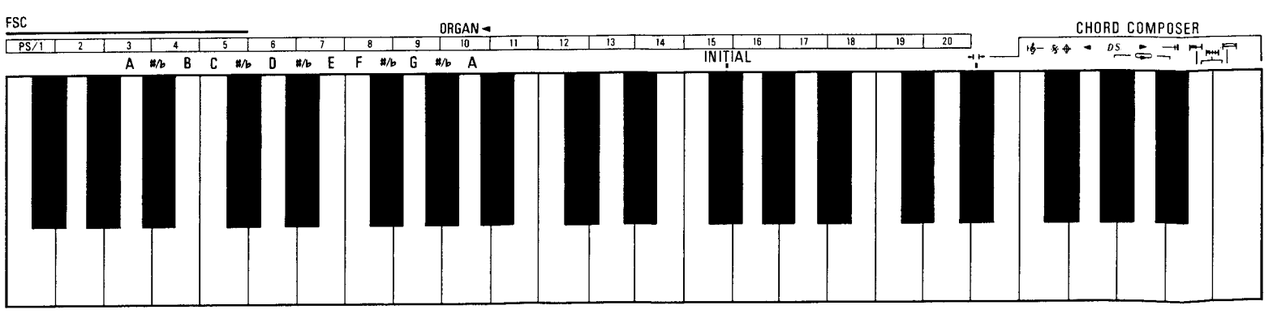
ARRANGEMENT OF CONTROL PANEL











DEFFERENCE BETWEEN SX-EX30L AND SX-EX30

• SX-EX30L: The music rack is as shown below.

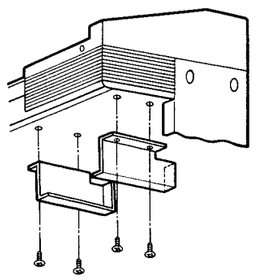
SX-EX30L	SX-EX30
■ Products for Europe, Canada and U.S.A. areas.	■ Products for Asia, Oceania and south Africa areas.
•Music Rack	•Keyboard Cover
[Fig. 6]	[Fig. 7]

• SX-EX30: The keyboard cover is attached.

HOW TO INSTALL THE DIGITAL DISK RECORDER

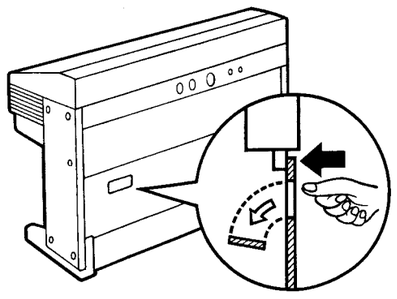
■ **When using the optional digital disk recorder (SY-FD5), attach the furnished bracket as instructed below.**

1 As shown in the illustration, attach the included brackets to the organ.



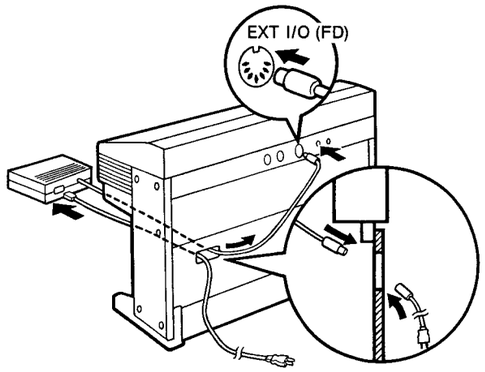
[Fig. 8]

2 On the rear panel of the organ, press firmly and push out the scored area to open the aperture.



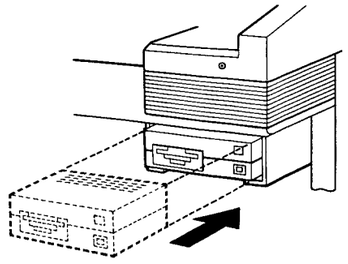
[Fig. 9]

3 Thread the digital disk recorder connector from the inner side of the organ through the aperture, and connect it to the **EXT I/O (FD)** terminal on the rear panel. Connect the power cord to the digital disk recorder from the back of the organ.



[Fig. 10]

4 Set the digital disk recorder in the holder.

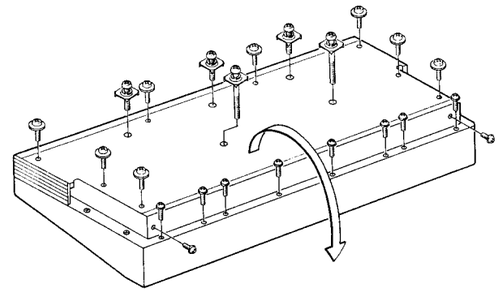


[Fig. 11]

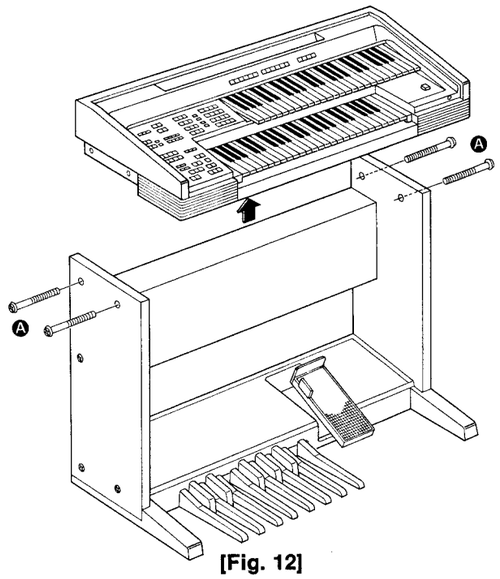
DISASSEMBLY PROCEDURE

1 Cabinet

① Remove four screws A as shown in Fig. 12, and dismount the upper organ from the stand.
② Turn the organ cabinet upside down as shown in Fig. 13, and remove 23 screws from the cabinet.
③ Lift the bottom board of the cabinet, and open to the rear side of the cabinet.



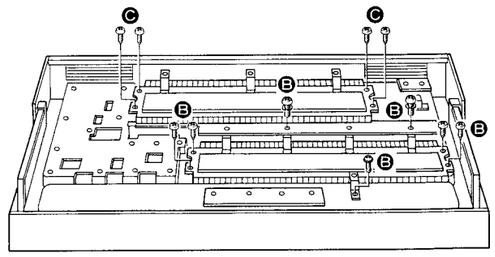
[Fig. 13]



[Fig. 12]

2 Manual Keyboard

• Open the cabinet according to step 1.
① Upper Keyboard
Remove the 7 screws Ⓑ which fasten the upper keyboard.
② Lower Keyboard
Remove the 4 screws Ⓒ which fasten the lower keyboard.



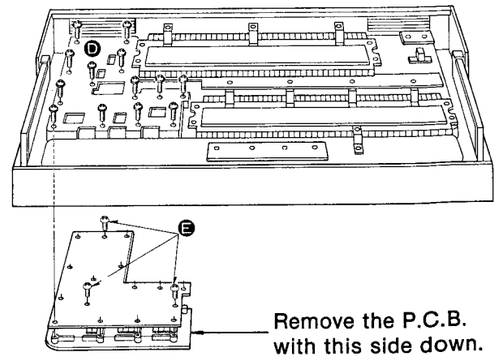
[Fig. 14]

3 Side Control Panel P.C.B.

• Open the cabinet according to step 1.
① Pull out the transpose and tempo control knobs.
② Remove the 13 screws Ⓓ which fasten the side control panel.
Then the side control panel can be removed downwords.
③ Remove the 3 screws Ⓔ on the side control panel P.C.B.

NOTES:

① When dismounting the side control panel P.C.B., set the button side down as shown in Fig. 15.
② If the button side is set upward, the buttons will fall down.



[Fig. 15]

4 Printed Circuit Board (MAIN, AS)

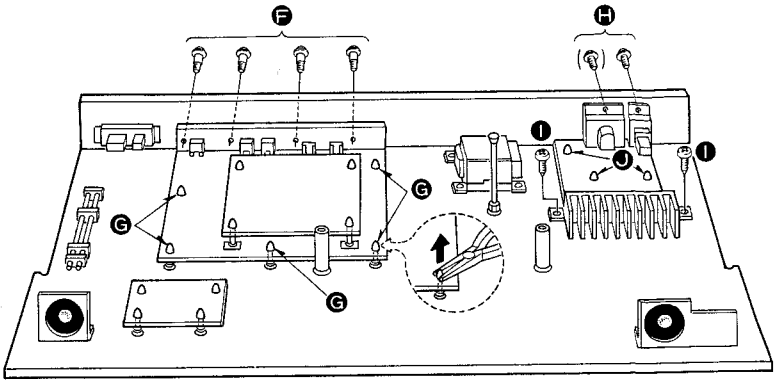
• Open the cabinet according to step 1.

MAIN Main P.C.B.

① Remove the 4 screws Ⓕ on the rear accessory panel.
② Remove the 5 claws Ⓖ which fasten the main P.C.B.

AS Amp & Power Supply P.C.B.

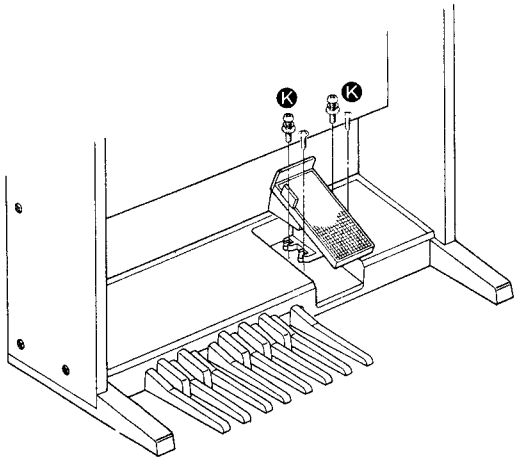
① Remove the 1 or 2 screws Ⓗ on the rear accessory panel and 2 screws Ⓘ which fasten the Amp unit.
② Remove the 3 claws Ⓙ which fasten the Amp & power supply P.C.B.



[Fig. 16]

5 Expression Pedal

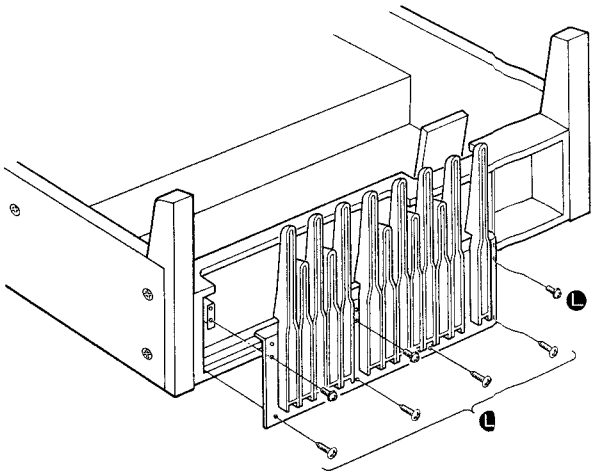
① Remove the 4 screws Ⓚ which fasten the expression pedal.



[Fig. 17]

6 Pedal Keyboard

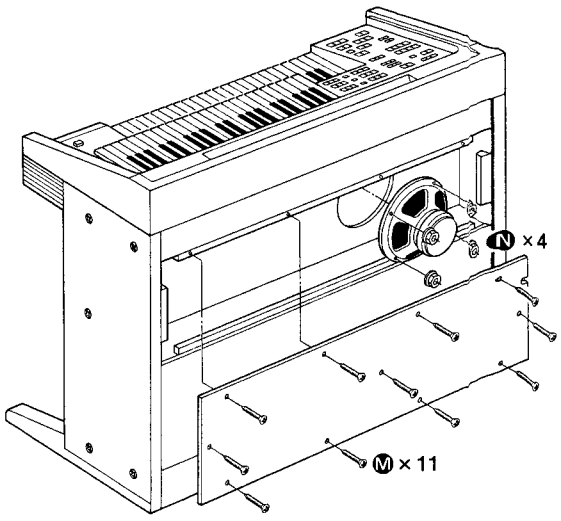
① Remove the 7 screws Ⓛ which fasten the pedal keyboard.



[Fig. 18]

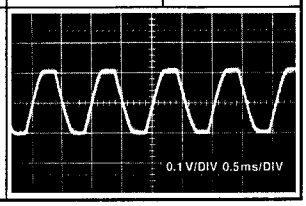
7 Speaker

① Remove the 11 screws Ⓜ on the rear board.
② Remove the 4 nuts Ⓝ which fasten the speaker.

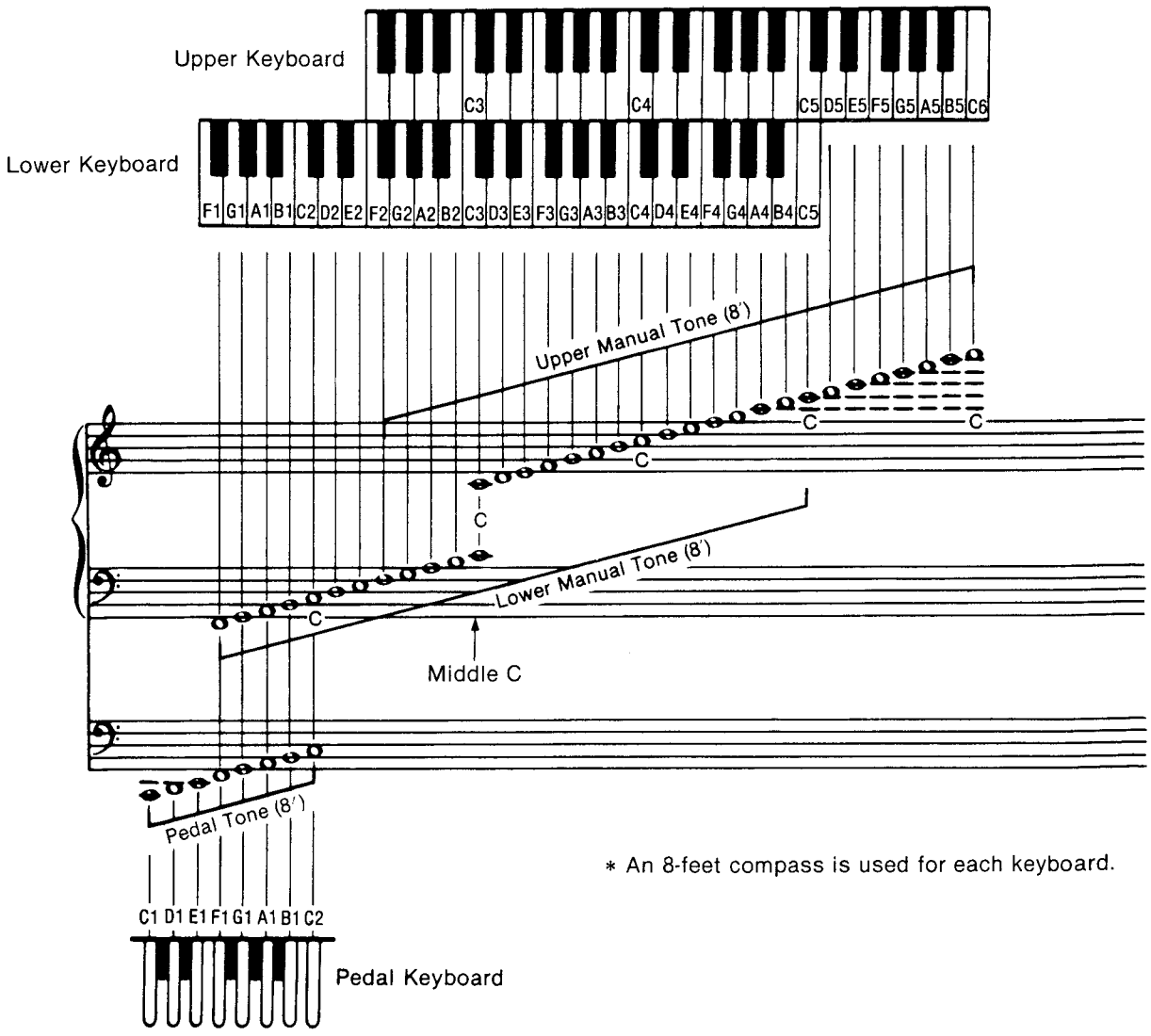


[Fig. 19]

ADJUSTMENT PROCEDURE

ADJUSTMENT	MEASURING CONDITIONS	EQUIPMENT	ADJUSTMENT P.C.B.	ADJ. POINT	CONNECT METER TO	METER READING
Reverb Depth	L. Poly...Tab Vices: FL-8′, 4′, 2′ L. Poly volume...Max. Reverb Volume...Max. Lower Keyboard...C3~B3	Electric voltmeter	MAIN P.C.B.	VR2	Check Point ㊾	340mVrms
	1. Connect the electric voltmeter to check point ㊾ of MAIN P.C.B. 2. Adjust VR2 so that the output level of check point ㊾ is 340mVrms when the C3~B3 keys (7 white keys) of lower keyboard are depressed.					
BBD Bias	Any position	Oscilloscope and Oscillator	MAIN P.C.B.	VR1	IC49-⑦ pin	Shown below
	1. Connect the oscilloscope to IC49-⑦ pin of MAIN P.C.B. 2. Input 1KHz sine-wave to IC57-③ pin by oscillator through capacitor of less than 50V 1μF. Then adjust the output level of the oscillator until the sine wave on the oscilloscope is clipped. 3. Adjust VR1 so that the output waveforms on the oscilloscope are evenly clipped at top and bottom.					

KEYBOARD RANGES


Upper Keyboard
C3
C4
C5 D5 E5 F5 G5 A5 B5 C6
Lower Keyboard
F1 G1 A1 B1 C2 D2 E2 F2 G2 A2 B2 C3 D3 E3 F3 G3 A3 B3 C4 D4 E4 F4 G4 A4 B4 C5
Upper Manual Tone (8′)
Lower Manual Tone (8′)
Middle C
Pedal Tone (8′)
C1 D1 E1 F1 G1 A1 B1 C2
Pedal Keyboard

* An 8-feet compass is used for each keyboard.

PRECAUTIONS BEFORE SERVICING

■ **Important safety notice:**

Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

■ **Measuring of output waveforms**

1. The waveform was measured by "National Digital Storage Oscilloscope VP-5730A". Therefore the waveforms of musical tone signals shown may somewhat change due to variation of timing of measure.
2. The voltage shown in the photo is 1/10 of the actual value. However, the actual voltage is 10 times of as shown in this photo.

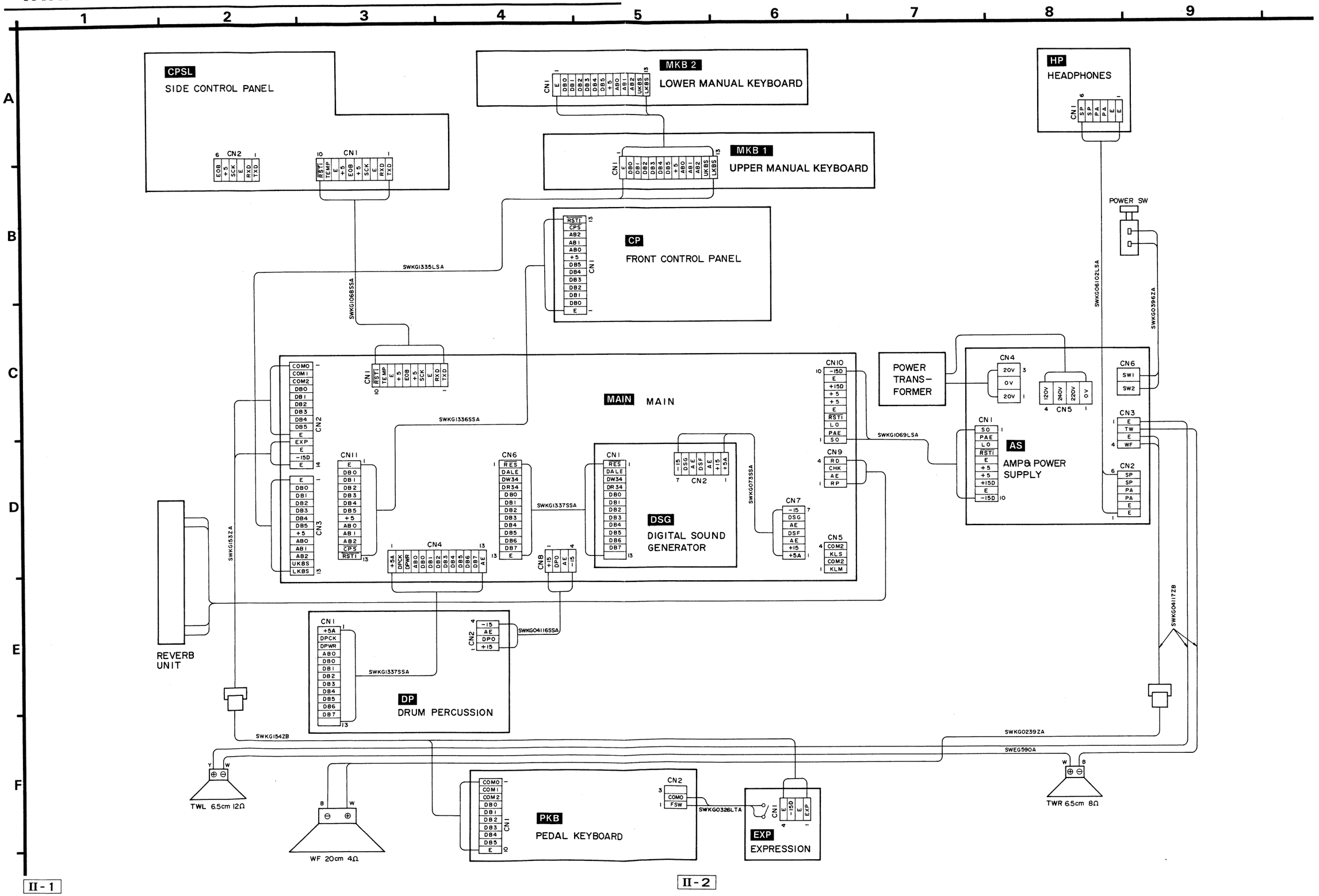
■ **Symptoms which appear to be signs of trouble**

The following changes in performance may occur in the Technics organ but do not indicate trouble:

Phenomenon	Remedy
The buttons, keyboards, etc. malfunction.	Press the **FSC** button first to turn it on and then press the **INITIAL** key on the lower keyboard. • If the buttons, keyboards, etc. do not return to normal, turn the **POWER** switch off onec, then turn on again.
Different voices are heard in the lower and upper half keys on the upper keyboard.	The lower portion of the upper manual keyboard is used to sound the lower manual voices when the lower manual keyboard is required for programming functions.
A rhythm does not start or no rhythm sounds.	• No rhythm sounds if the **DRUMS VOLUME** button is turned off. • The rhythm does not start when you turn on a **PLAY SEQUENCER** button in which a tune with no rhythm is stored.
The foot switch does not operate properly	Any functional on and off operation other than the glide is storable in the foot switch.
The **TREMOLO** speed is improper.	The **TREMOLO** speed is adjustable. Adjust to your favorite speed.
The contents of the **PROGRAM CHORD COMPUTER, FULLBAND SETTING COMPUTER,** ect. cannot be stored.	After pressing the **RECORD** button, press the necessary buttons within 5 seconds. The **RECORD** button turns off after a lapse of 5 seconds, making storage operation impossible. Press the **RECORD** button again.
When storing the created tones and effects in the **VOICE SETTING COMPUTER,** voices other than those desired are stored.	• To store your created tones and effects, press the 1~7 buttons of the **VOICE SETTING COMPUTER** while the **SET** button is held down. held down. • To select your favorite voice from the 32 factory-preset voices, press the **RECORD** button and depress one of the number buttons of the **VOICE SETTING COMPUTER** within 5 seconds. Then press **RHYTHM** button(s). Finally, press the selected number button again.
Storage is not possible with the **PROGRAM CHORD COMPUTER.**	• Check that the **PCC** indicator is slowly flashing. Pressing the **FINGERED** button turns of the **RECORD** button, making storage operation impossible. • Do not release the left hand (chord designation) before pressing the measure keys (, , and).

Phenomenon	Remedy
The stored registration cannot be used when performance is started with the **PLAY SEQUENCER** button turned on.	To use the stored registration, turn on the **FSC** button and then press the 1 key on the lower keyboard.
The stored introduction is not reproduced during automatic performance.	• Set the beginning of a song, such as an introduction, before turning on the **RECORD** button. • To add an introduction after the **RECORD** indicator and **PLAY SEQUENCER** indicator flash, set it after turning on the **FSC** button. Then turn off the **FSC** button.
No storage is possible even when the **RECORD** indicator and **PLAY SEQUENCER** indicator are slowly flashing.	• No storage is possible when the **FSC** button is turned on. Turn it off before playing. • If any **PLAY SEQUENCER** indicator is lit, press the **START/STOP** button for automatic performance of the stored part. Another part can then be stored.
The quick rhythm tempo is delayed when the **PLAY SEQUENCER** is used.	This occurs when too many tones are played at one time. Slow down the tempo (to about ♩ =180) or reduce the number of tones played at a time.
Different tones and effects are stored in the **FULLBAND SETTING COMPUTER** (**FSC**).	If the **VOICE SETTING COMPUTER** (**VSC**) function is selected, the stored contents in this button are stored into the **FSC**. When the tones and effects selected by the **VSC** are changed, store them in the **VSC** again before storage in the **FSC**.
The cabinet becomes heated to some degree.	The Technics organ has a built-in power source that heats the cabinet to some degree. This is not an indication of trouble.
Sustain does not function.	Sustain does not function for the following voices. • Poly: Accordion, Trombone, Clarinet, Saxophone • Special: French Horn, Saxophone, Trombone, Trumpet
The glide effect does not function.	The glide effect does not function for the following voices. • Poly: Piano, Electric Piano, Harpsichord, Clavi, Strings • Special: Piano, Electric Piano, Harpsichord, Clavi, French Horn, Vibraphone • Pedal Voices
The pedal notes are improper when the transpose is used.	The pedal keyboard notes are lowerd one octave when 8′ notes are transposed higher than a major 3rd, and become one octave higher when 16′ notes are transposed to lower than C.
The techni-chord does not function.	Techni-chords cannot be played using the lower seven keys of the upper keyboard.

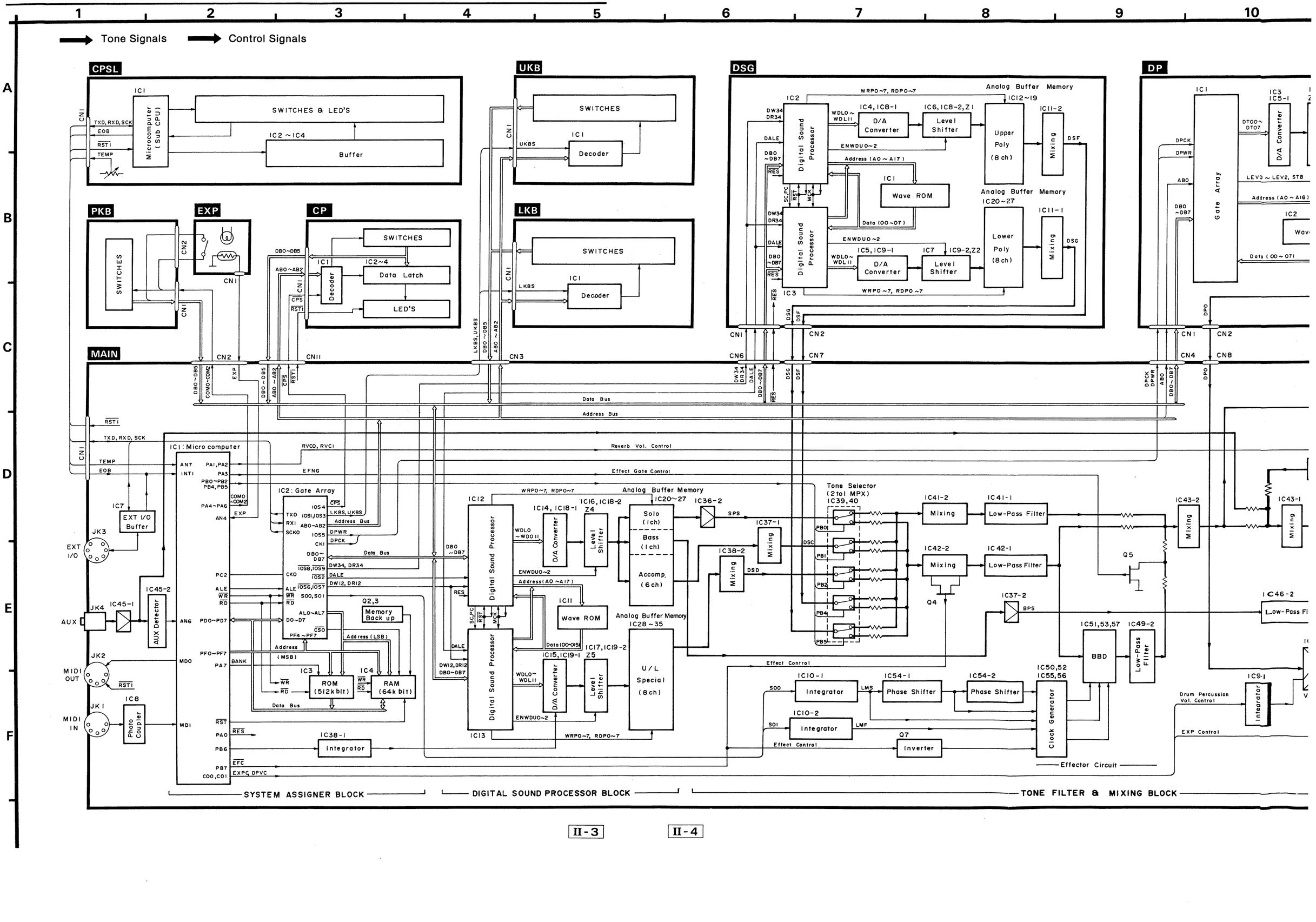
WIRING CONNECTION DIAGRAM



II-1

II-2

BLOCK DIAGRAM



UKB
SWITCHES
IC1
Decoder
UKBS
CN1
LKB
SWITCHES
IC1
Decoder
LKBS
CN1
ABO ~AB2
CN3

DSG
IC2
Digital Sound Processor
DW34
DR34
DALE
DBO ~DB7
RES
WDLO ~ WDL11
IC4, IC8-1
D/A Converter
IC6, IC8-2, Z1
Level Shifter
WRPO~7, RDPO~7
Analog Buffer Memory
IC12~19
Upper Poly (8ch)
IC11-2
Mixing
DSF
ENWDUO~2
Address (A0 ~ A17)
IC1
Wave ROM
Data (00~07)
SC/PC
RST
MCK
Analog Buffer Memory
IC20~27
Lower Poly (8ch)
IC11-1
Mixing
DSG
IC5, IC9-1
D/A Converter
IC7
IC9-2, Z2
Level Shifter
IC3
CN1
CN2
CN6
CN7

DP
IC1
Gate Array
DPCK
DPWR
ABO
DBO ~DB7
DPO
IC3
IC5-1
D/A Converter
IC4
Z1
Level Control
IC5-2
Low-Pass Filter
DTO0~ DTO7
LEV0 ~ LEV2, STB
Address (A0 ~ A16)
IC2
Wave ROM
Data (00~07)
CN1
CN2
CN4
CN8

Reverberation Unit
CN9
CHK
RO
RP

AC IN
Power Transformer
Power SW.
AS
CN5
CN4
CN6
AC1
AC2
Primary Circuit
IC2
-15V Regulator
D1 ~D6
Rectifier
IC1
+15V Regulator
IC3, Q4
+5V Switching Regulator
Q1, Q2
Reset Circuit
Q3, Q11
Relay Driver
-15D
+15D
+5
RSTI
CN10
CN1

Data Bus
Address Bus
Reverb Vol. Control
Effect Gate Control

IC58-1
Reverb Drive Amp.
IC59
IC49-1
Reverb Vol. Control
IC58-2
Reverb Pick-up Amp.

Tone Selector (2to1 MPX)
IC39, 40
PB0
PB1
PB2
PB4
PB5
DSC
DSD
IC41-2
Mixing
IC41-1
Low-Pass Filter
IC42-2
Mixing
IC42-1
Low-Pass Filter
Q4
Q5
IC43-2
Mixing
IC43-1
Mixing
IC44
Noise Reduction
IC46-2
Low-Pass Filter
IC48-2
Mixing
IC47-1
VCA
IC48-1
I/V Converter
SO
LO
Q5 ~Q10
Power Amplifier Circuit
RL1
HP
Headphones Jack
PA
SP
CN2
CN1
CN3
WF
TW
WF 20cm 4Ω
TWR 6.5cm 8Ω
TWL 6.5cm 12Ω
JK5
Line Out

IC14, IC18-1
D/A Converter
IC16, IC18-2
Z4
Level Shifter
WDLO ~WDO11
ENWDUO~2
Address(A0 ~A17)
MCK
IC11
Wave ROM
Data (00-05)
IC15, IC19-1
D/A Converter
IC17, IC19-2
Z5
Level Shifter
WDLO~ WDL11
ENWDUO~2
WRPO~7, RDPO~7
Analog Buffer Memory
IC20~27
Solo (1ch)
Bass (1ch)
Accomp. (6ch)
IC36-2
SPS
IC37-1
Mixing
IC38-2
Mixing
DSD
Analog Buffer Memory
IC28~35
U/L Special (8ch)
IC37-2
BPS
Effect Control
IC10-1
Integrator
SOO
LMS
IC54-1
Phase Shifter
IC54-2
Phase Shifter
IC10-2
Integrator
SOI
LMF
Q7
Inverter
Effect Control
IC50,52
IC55,56
Clock Generator
IC51,53,57
BBD
IC49-2
Low-Pass Filter
Effector Circuit
IC47-2
VCA
IC9-1
Integrator
Drum Percussion Vol. Control
IC9-2
Integrator
EXP Control

TAL SOUND PROCESSOR BLOCK
TONE FILTER & MIXING BLOCK

MAIN CIRCUIT BOARD

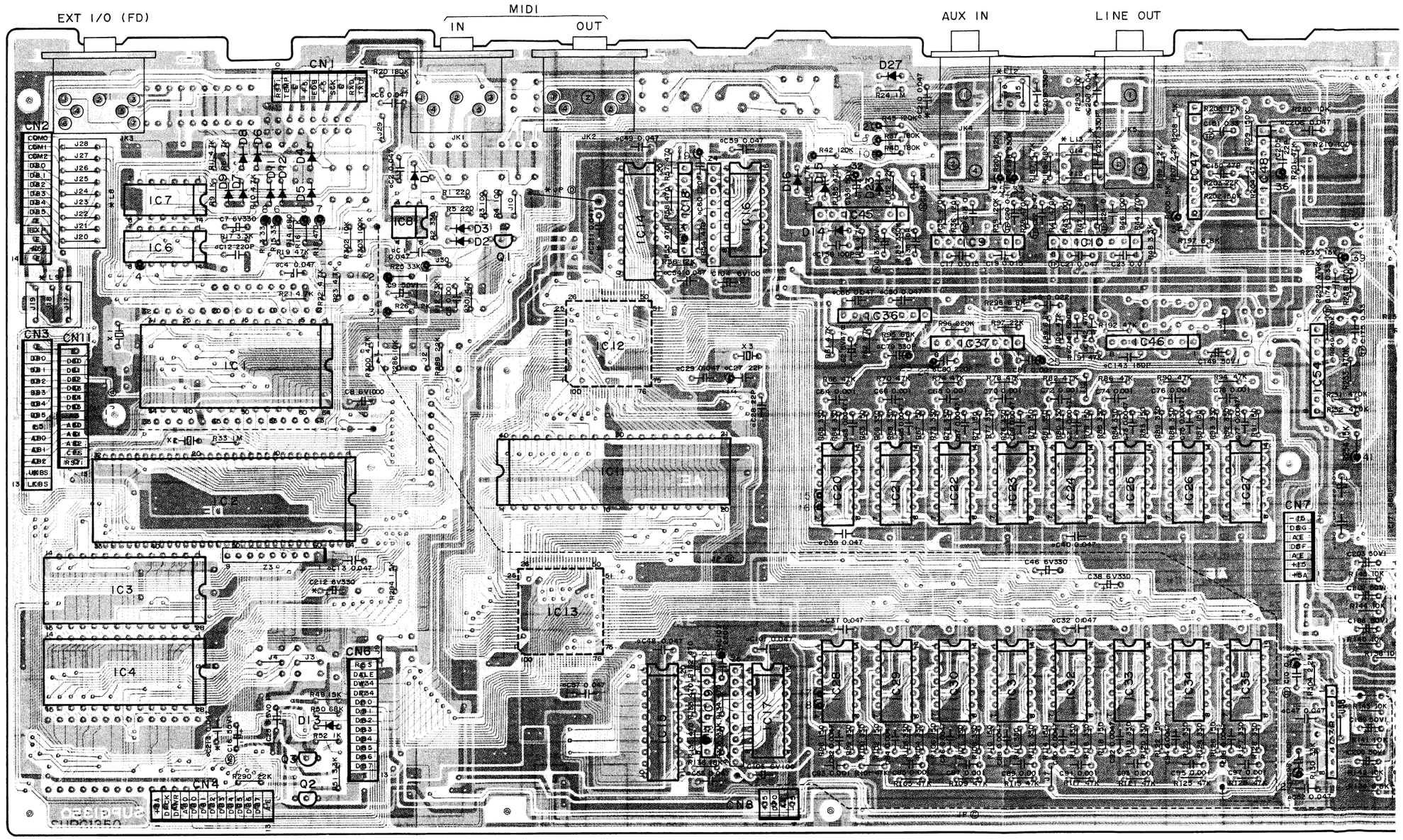
MAIN

* P.C.B. Compari

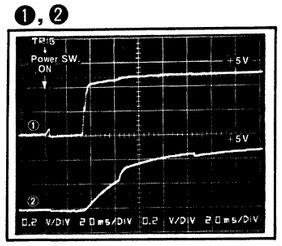
Area	P.C.
EZ, M	SXPG13
Others	SXPG13

1 2 3 4 5 6 7 8 9 10

A B C D E F

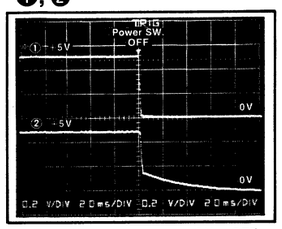


❶, ❷



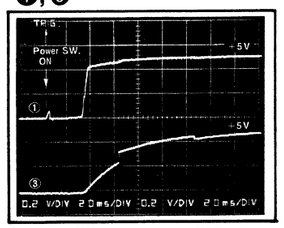
• Power SW.....OFF→ON

❶, ❷



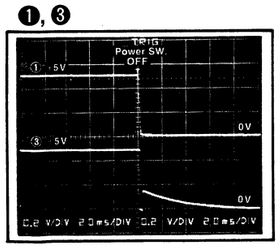
• Power SW.....ON→OFF

❶, ❸



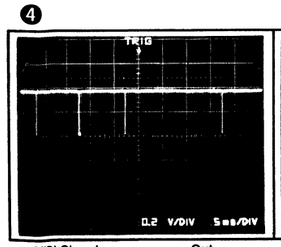
• Power SW.....OFF→ON

❶, ❸



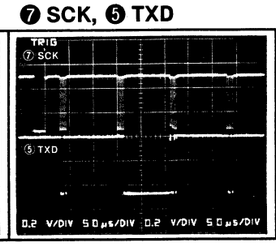
• Power SW.....ON→OFF

❹

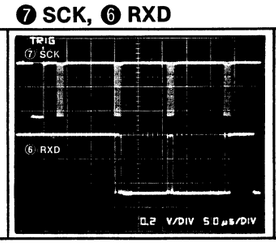


• MIDI Signal .....Out

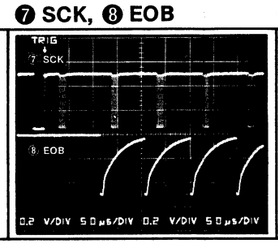
❼ SCK, ❺ TXD



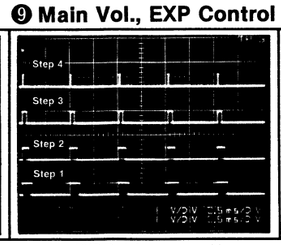
❼ SCK, ❻ RXD



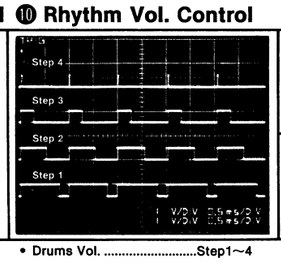
❼ SCK, ❽ EOB



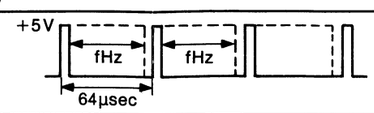
❾ Main Vol., EXP Control



❿ Rhythm Vol. Control



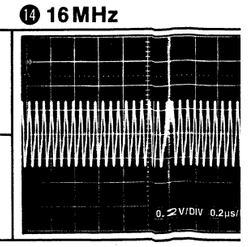
⓫, ⓬



• Tremolo	6.5Hz
• Chorus	0.5Hz
• Celeste	0.5Hz

• Tremolo	20Hz
• Chorus	1Hz

⓮ 16MHz



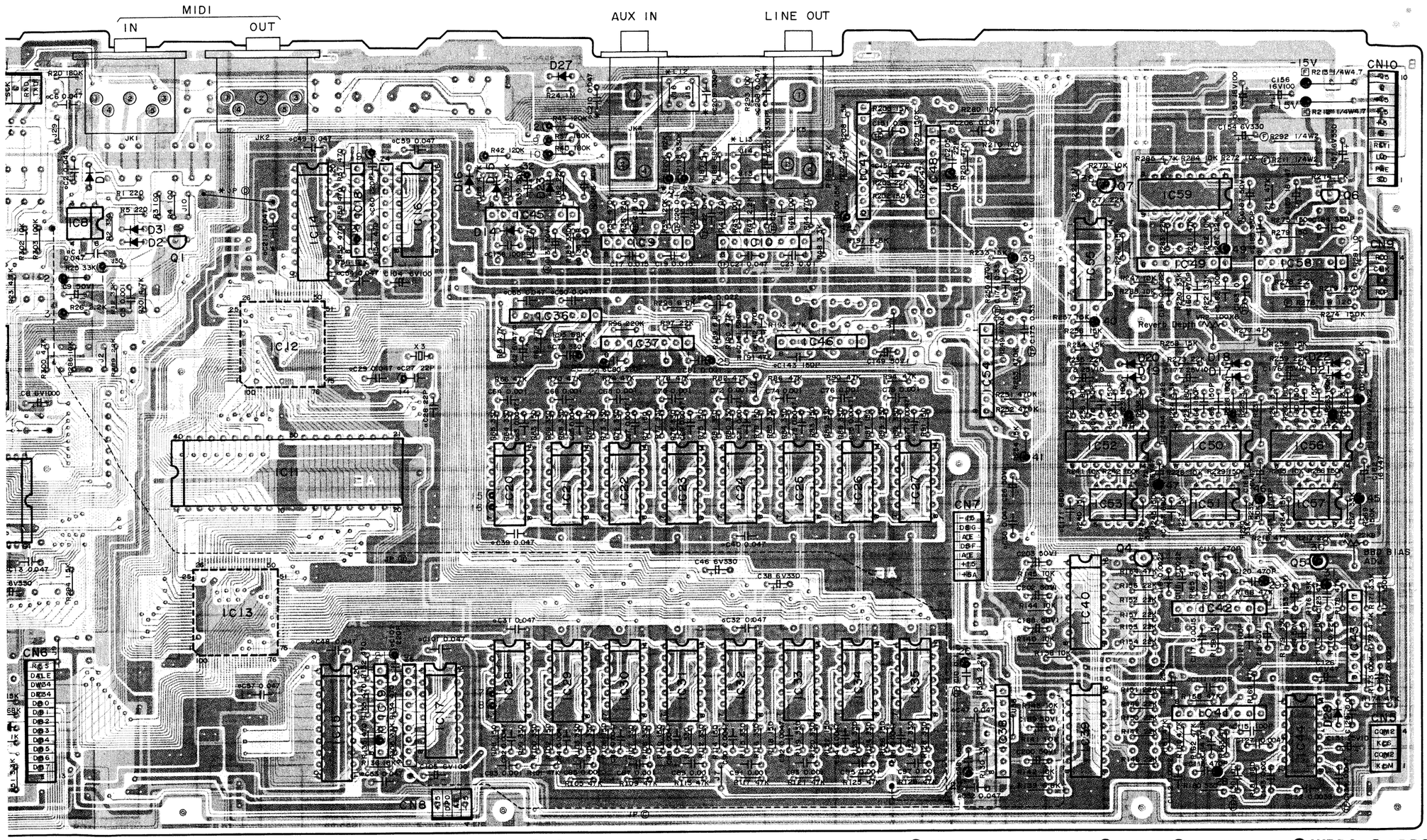
• EXP Pedal.....Max.
• Main Vol. .....Step1~4
• Upper Key.....ON

• Drums Vol. .....Step1~4
• Rhythm .....Start

＊P.C.B. Comparison chart by area.

Area	P.C.B. No.	L8	L9	L12	L13	C207～C213	JP Ⓐ	JP Ⓑ
EZ, M	SXPG135021	○	○	○	○	○	○	○
Others	SXPG135011	× (J20～J28)	× (J17～J19)	× (J15, J16)	× (J13, J14)	×	×	×

5 6 7 8 9 10 11 12 13 14



＊Products for (EZ) (M) areas

SXPG135021

＊Other areas

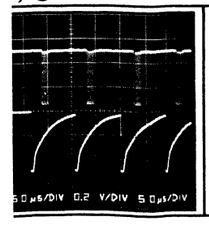
SXPG135011

Circuit view on top of P.C.B

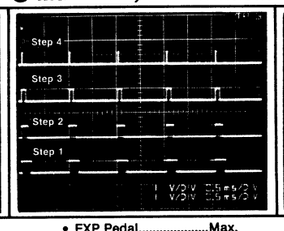
NOTES:

- IC'S
  - IC1: SVIG7810H
  - IC2: SVIGM6050211
  - IC3: SVIG05EX30-A
  - IC4: SVIGD446415L
  - IC6: SVIGM74LS05
  - IC7: SVIGM74LS07
  - IC8: SVIGPC900
  - IC9, 10, 36～38, 41～43, 45, 46, 48, 49, 54: SVIGM5218L
  - IC11: SVIG2000C209
  - IC12, 13: MN6635
  - IC14, 15: SVIGBA9221
  - IC16, 17: MN74HC4051
  - IC18, 19: SVIGM5238L
  - IC20～35: MN74HC4066
  - IC39, 40: SVIGTC4053BP
  - IC44: SVIGLM1894N
  - IC47: SVIGM5241L
  - IC50, 52, 56: SVIGMSM4011
  - IC51, 53, 57: MN3006
  - IC55: SVIGUPD4066B
  - IC58: SVIGM5216LL
  - IC59: SVIGMSM4051R
- TRANSISTORS
  - Q1, 3: 2SA1015-GR
  - Q2, 6, 7: 2SC2320LFG
  - Q4, 5: 2SJ40CD
- DIODES
  - D1～9, 11～23, 27, 28: MA165TA5

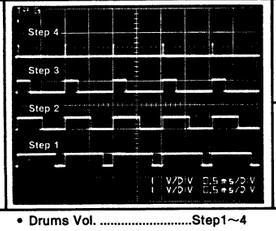
⑧ EOB



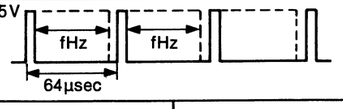
⑨ Main Vol., EXP Control



⑩ Rhythm Vol. Control

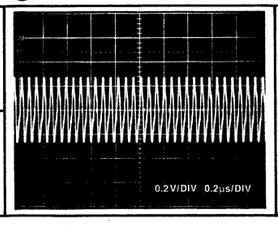


⑪, ⑫

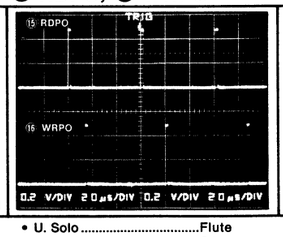


• Tremolo ..... 6.5Hz • Chorus ..... 0.5Hz • Celeste 0.5Hz	• Tremolo ..... 20Hz • Chorus 1Hz

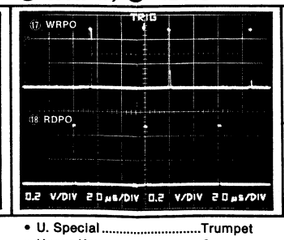
⑭ 16MHz



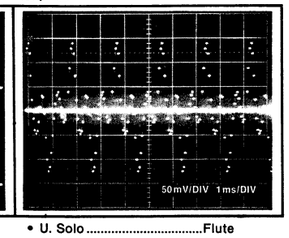
⑮ RDPO, ⑯ WRPO



⑰ WRPO, ⑱ RDPO



⑲, ⑳



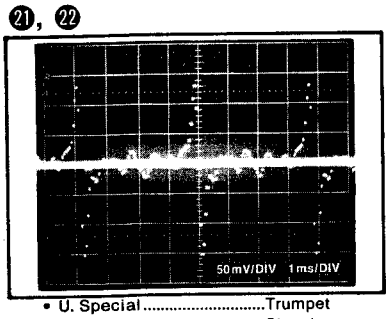
II-7

- EXP Pedal.....Max.
- Main Vol. .....Step1～4
- Upper Key.....ON
- Drums Vol. .....Step1～4
- Rhythm .....Start

II-8

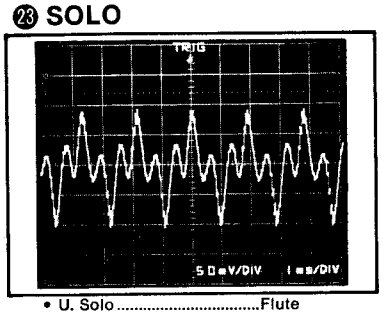
- U. Solo .....Flute
- Upper Key.....C4
- U. Special .....Trumpet
- Upper Key.....C4
- U. Solo .....Flute
- Solo Volume.....Step 4
- Upper Key.....C4

㉑, ㉒



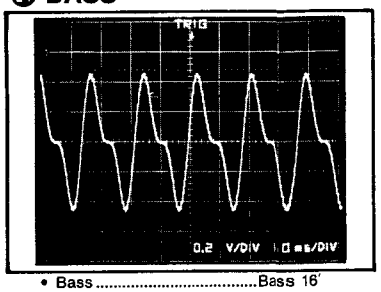
- U. Special .....Trumpet
- Special Volume .....Step 4
- Upper Key.....C4

㉓ SOLO



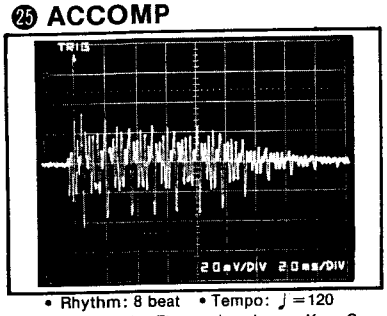
- U. Solo .....Flute
- Solo Volume.....Step 4
- Upper Key.....C4

㉔ BASS



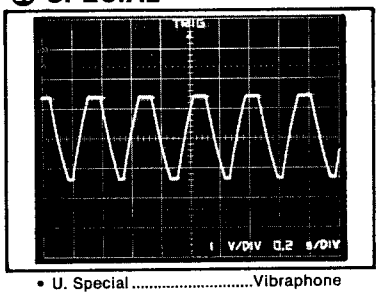
- Bass .....Bass 16'
- Bass Volume.....Step 4
- Pedal Key A1

㉕ ACCOMP



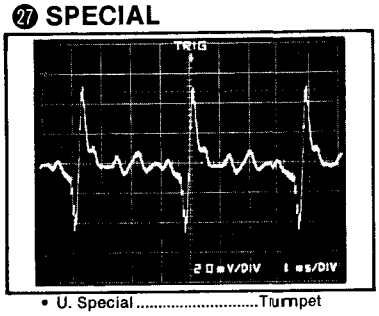
- Rhythm: 8 beat • Tempo: ♩=120
- Play Mode: Fingered • Lower Key: C
- Accomp Pattern: Ⅱ, Melodic
- Accomp Volume: Step 4

㉖ SPECIAL



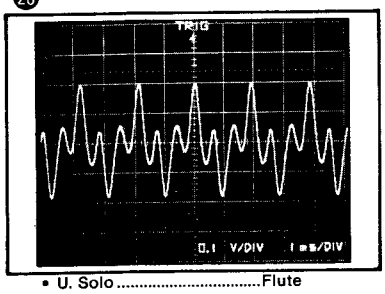
- U. Special .....Vibraphone

㉗ SPECIAL



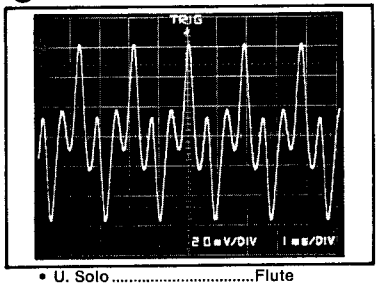
- U. Special .....Trumpet
- Special Vol. .....Step 4
- Upper Key.....C4

㉘



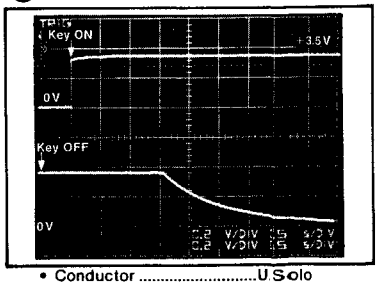
- U. Solo .....Flute
- Solo Volume.....Step 4
- Upper Key.....C4

㉙



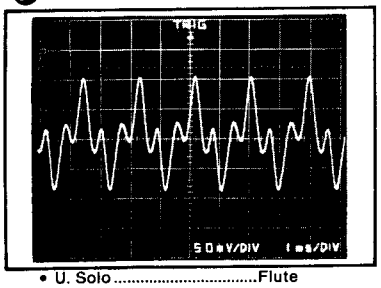
- U. Solo .....Flute
- Effect .....Solo, Celeste
- Solo Vol...Step 4 • Upper Key...C4

㉚



- Conductor .....U.Solo
- Effect .....Solo
- Upper Key.....ON → OFF

㉛

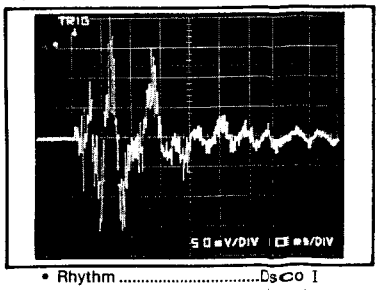


- U. Solo .....Flute
- Solo Volume.....Step 4
- Upper Key...C4 • Effect...OFF

㉝ Drums Vol. Control

- Drums Volume
  - Step 1..... −10V
  - Step 2..... −7V
  - Step 3..... −3.5V
  - Step 4..... −0V

㉞ Drum Percussion



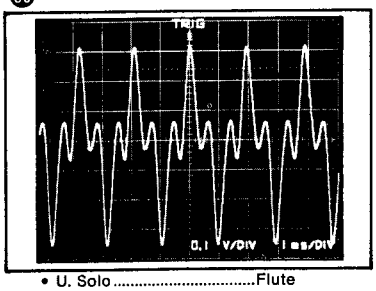
- Rhythm .....Disco 1
- Tempo.....♩= 120
- Drums Volume.....Step 4

㉟ Main Vol., EXP Control

- Main Volume
  - Step 1..... −2.8V
  - Step 2..... −2.0V
  - Step 3..... −1.2V
  - Step 4..... −0.4V

- EXP Pedal.....Max.
- Main Volume.....Step 1~4
- Upper Key.....ON

㊱

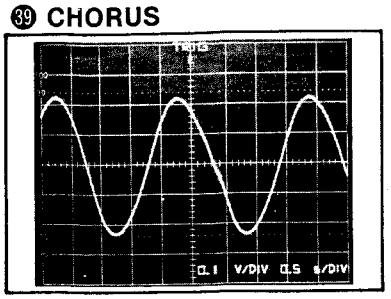


- U. Solo .....Flute
- Solo Vol., Main Vol. .....Step 4
- EXP Pedal...Max. • Upper Key...C4

㊳

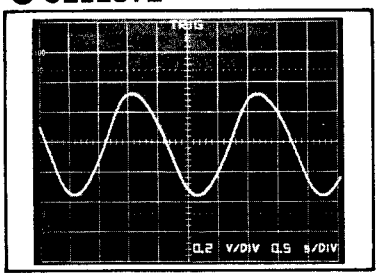
- Effect
  - Celeste 0V
  - Tremolo/chorus ..... +15V

㊴ CHORUS



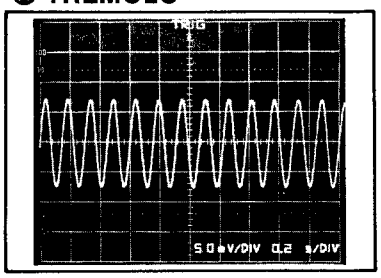
• Effect .....Chorus

㊴ CELESTE



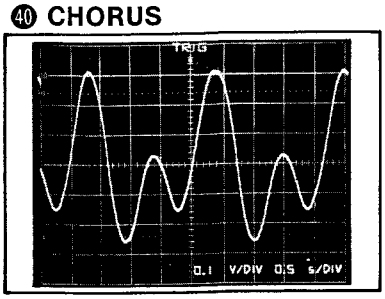
• Effect .....Celeste

㊴ TREMOLO



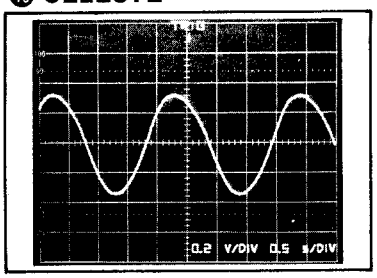
• Effect .....Tremolo

㊵ CHORUS



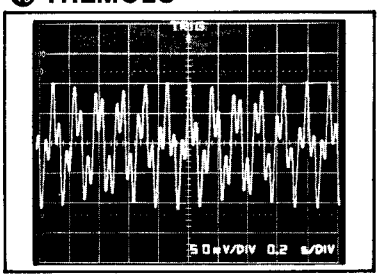
• Effect .....Chorus

㊵ CELESTE



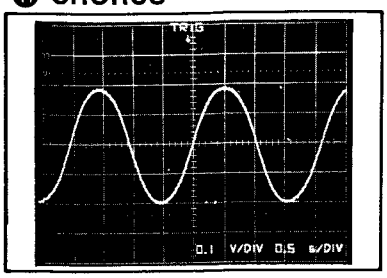
• Effect .....Celeste

㊵ TREMOLO



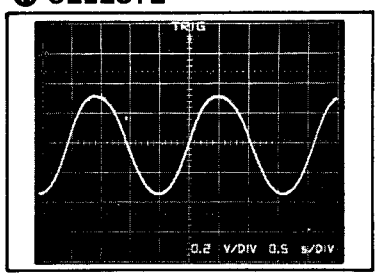
• Effect .....Tremolo

㊶ CHORUS



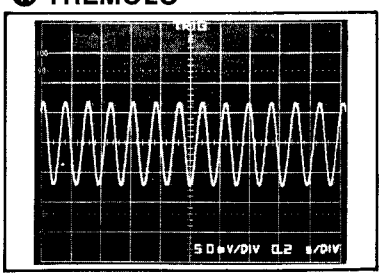
• Effect .....Chorus

㊶ CELESTE



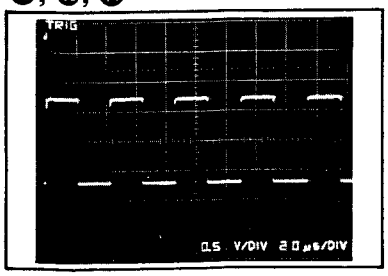
• Effect .....Celeste

㊶ TREMOLO



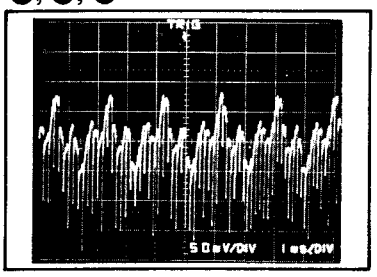
• Effect .....Tremolo

㊷, ㊸, ㊹



• Effect .....Celeste

㊺, ㊻, ㊼

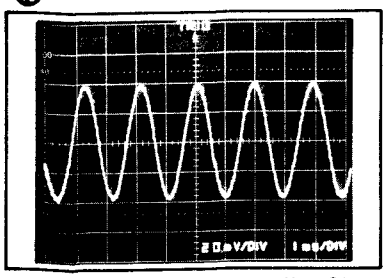


• U. Solo...Flute • Upper Key...C4
• Solo Volume.....Step 4
• Effect .....Solo, Celeste

㊽

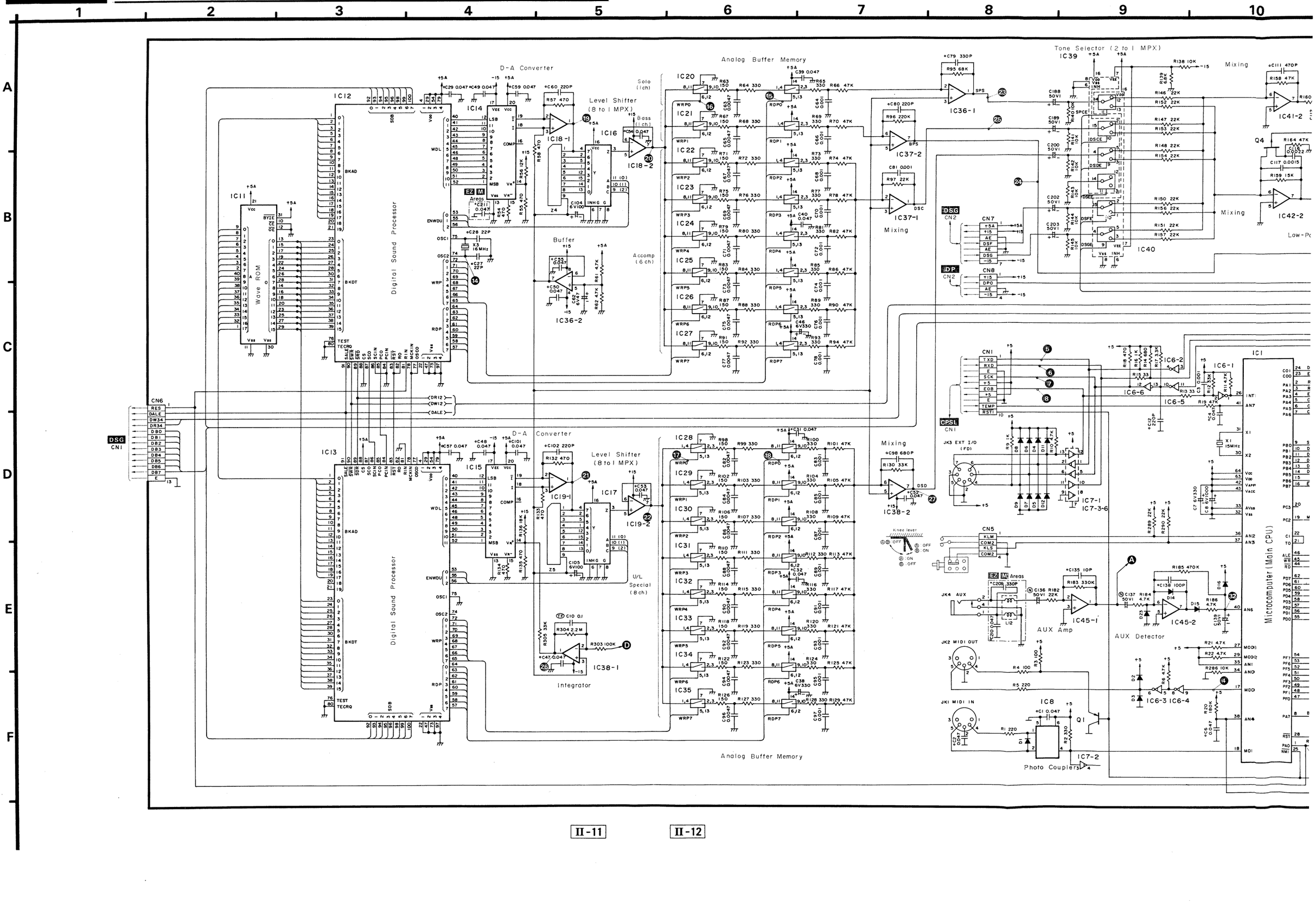
+15V

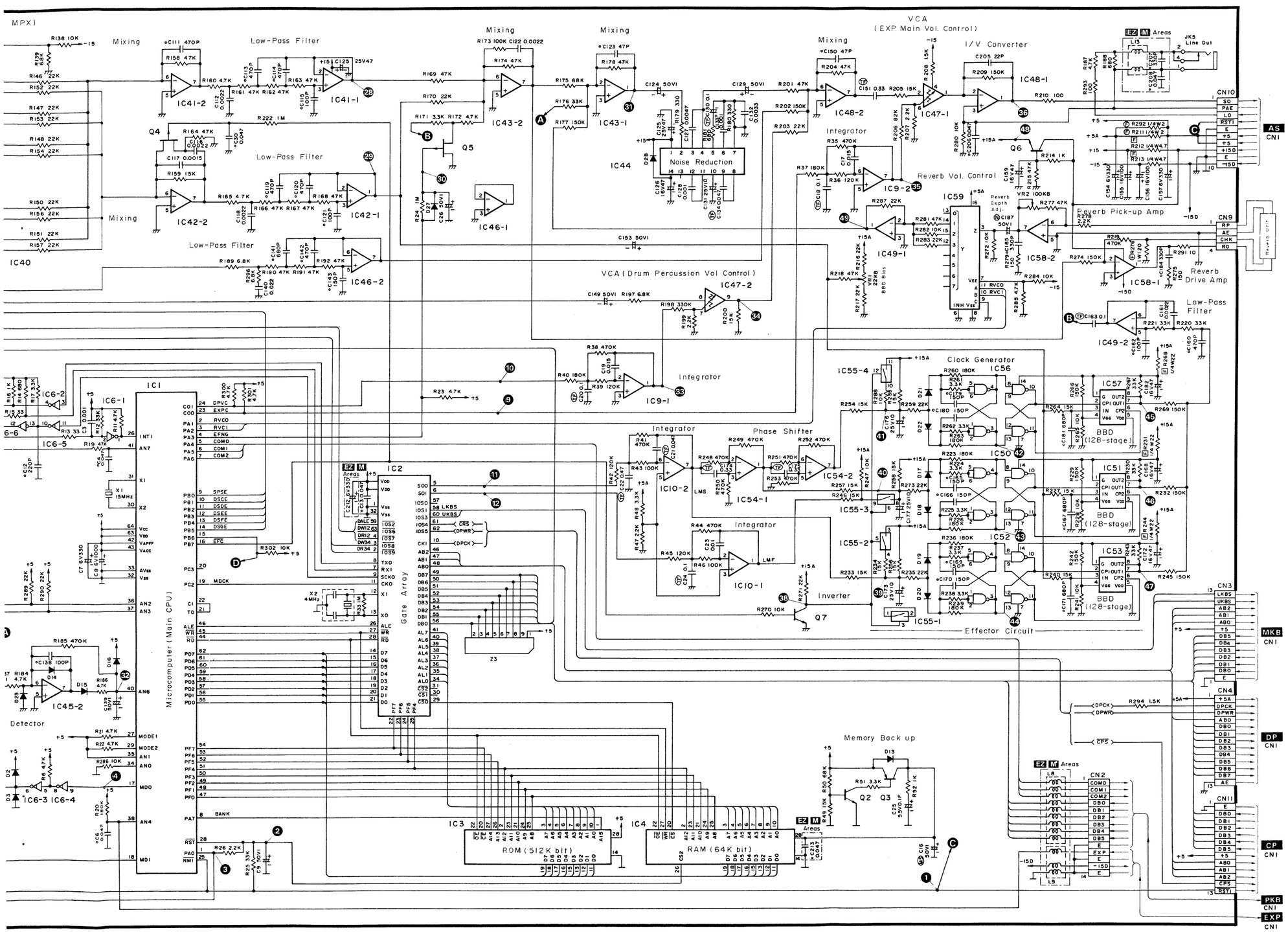
㊾



• U. Poly...Flute 8' • Upper Key...C4
• U. Poly Volume.....Step 4
• Reverb Volume .....Step 4

MAIN CIRCUIT DIAGRAM





NOTES:

- IC'S

IC1:	SVIG7810H
IC2:	SVIGM6050211
IC3:	SVIG05EX30-A
IC4:	SVIGD446415L
IC6:	SVIGM74LS05
IC7:	SVIGM74LS07
IC8:	SVIGPC900
IC9, 10, 36~38, 41~43, 45, 46, 48, 49, 54:	SVIGM5218L
IC11:	SVIG2000C209
IC12, 13:	MN6635
IC14, 15:	SVIGBA9221
IC16, 17:	MN74HC4051
IC18, 19:	SVIGM5238L
IC20~35:	MN74HC4066
IC39, 40:	SVIGTC4053BP
IC44:	SVIGLM1894N
IC47:	SVIGM5241L
IC50, 52, 56:	SVIGMSM4011
IC51, 53, 57:	MN3006
IC55:	SVIGUPD4066B
IC58:	SVIGM5216LL
IC59:	SVIGMSM4051R

- TRANSISTORS

Q1, 3:	2SA1015-GR
Q2, 6, 7:	2SC2320LFG
Q4, 5:	2SJ40CD

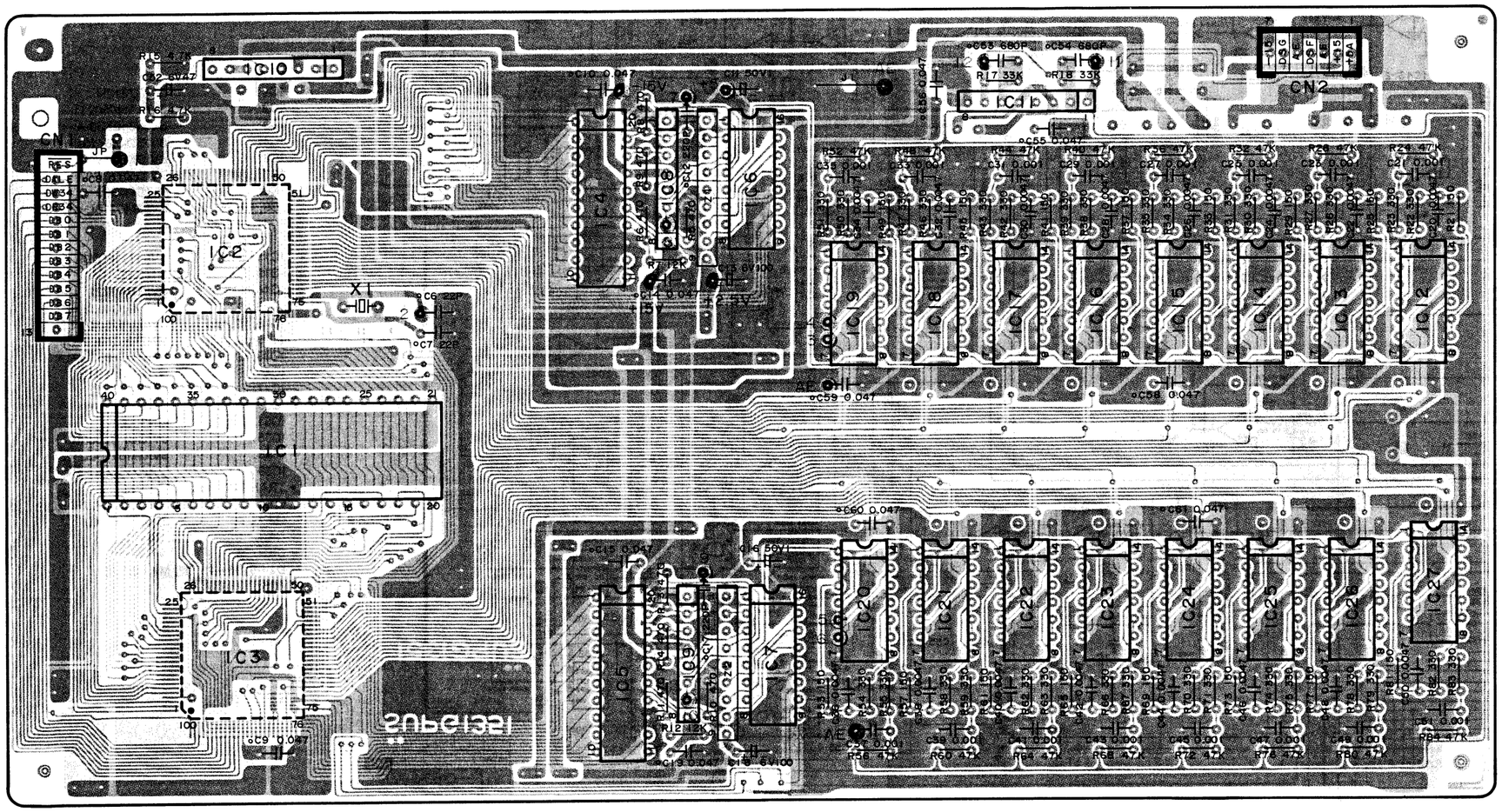
- DIODES

D1~9, 11~23, 27, MA165TA5
28:

DIGITAL SOUND GENERATOR CIRCUIT BOARD

Circuit view on top of P.C.B

SXPG135111

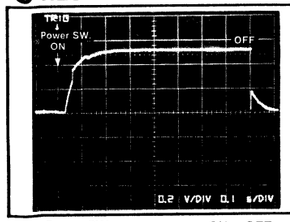


NOTES:

- IC'S

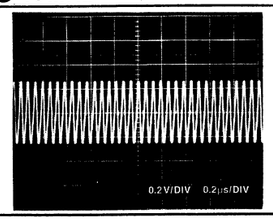
IC1:	SVIG2000C210
IC2, 3:	MN6635
IC4, 5:	SVIGBA9221
IC6, 7:	MN74HC4051
IC8, 9:	SVIGM5238L
IC10, 11:	SVIGM5218L
IC12~27:	MN74HC4066

❶ RES

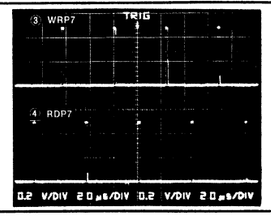


- Power SW. ..... ON → OFF

❷ 16MHz

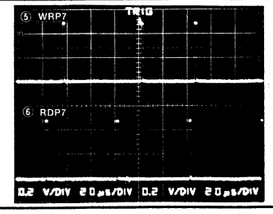


❸ WRP7, ❹ RDP7



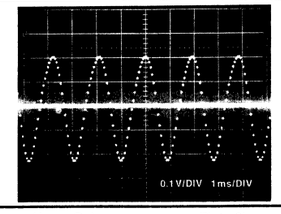
- Upper Poly ..... Flute 8'
- Upper Key C4

❺ WRP7, ❻ RDP7



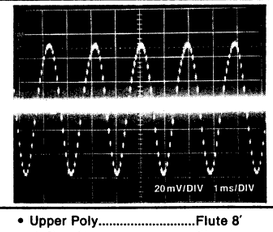
- Lower Poly ..... Flute 8'
- Lower Key C4

❼



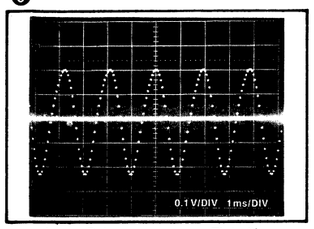
- Upper Poly ..... Flute 8'
- U. Poly Volume ..... Step 4
- Upper Key C4

❽



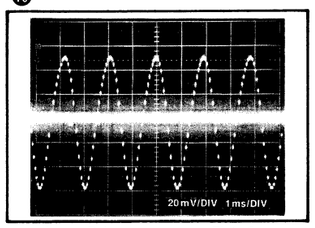
- Upper Poly ..... Flute 8'
- U. Poly Volume ..... Step 4
- Upper Key C4

❾



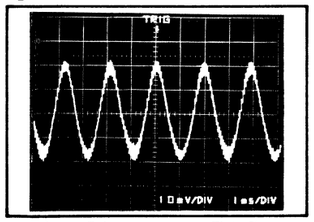
- Lower Poly ..... Flute 8'
- L. Poly Volume ..... Step 4
- Lower Key C4

❿



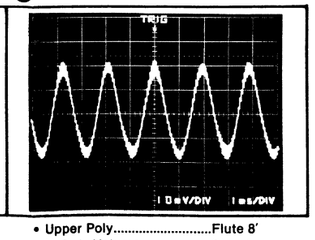
- Lower Poly ..... Flute 8'
- L. Poly Volume ..... Step 4
- Lower Key C4

⓫



- Lower Poly ..... Flute 8'
- Lower Volume ..... Step 4
- Lower Key C4

⓬

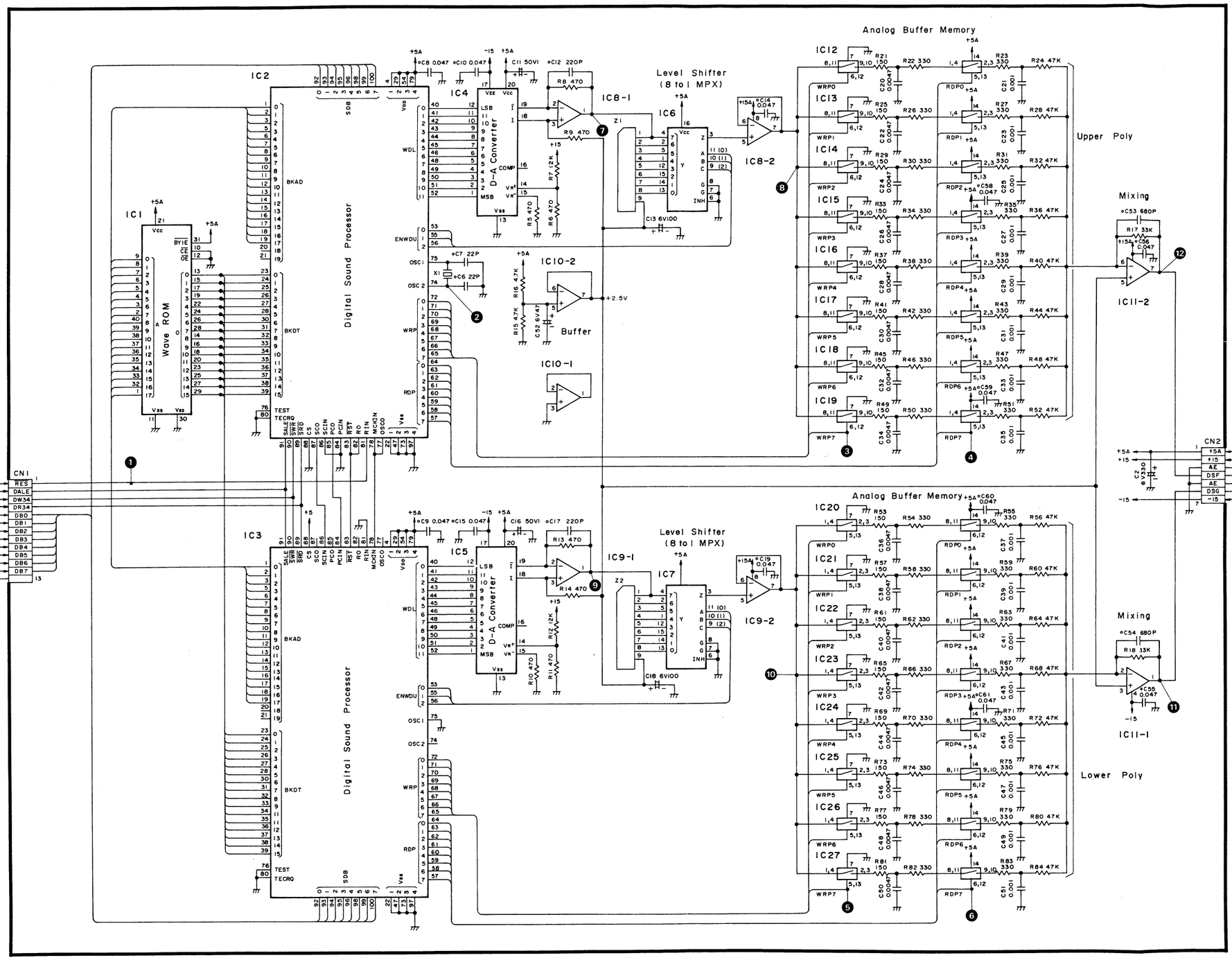


- Upper Poly ..... Flute 8'
- U. Poly Volume ..... Step 4
- Upper Key C4

CN1
RES
DALE
DW34
DR34
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7

MAIN CN6

DIGITAL SOUND GENERATOR CIRCUIT DIAGRAM

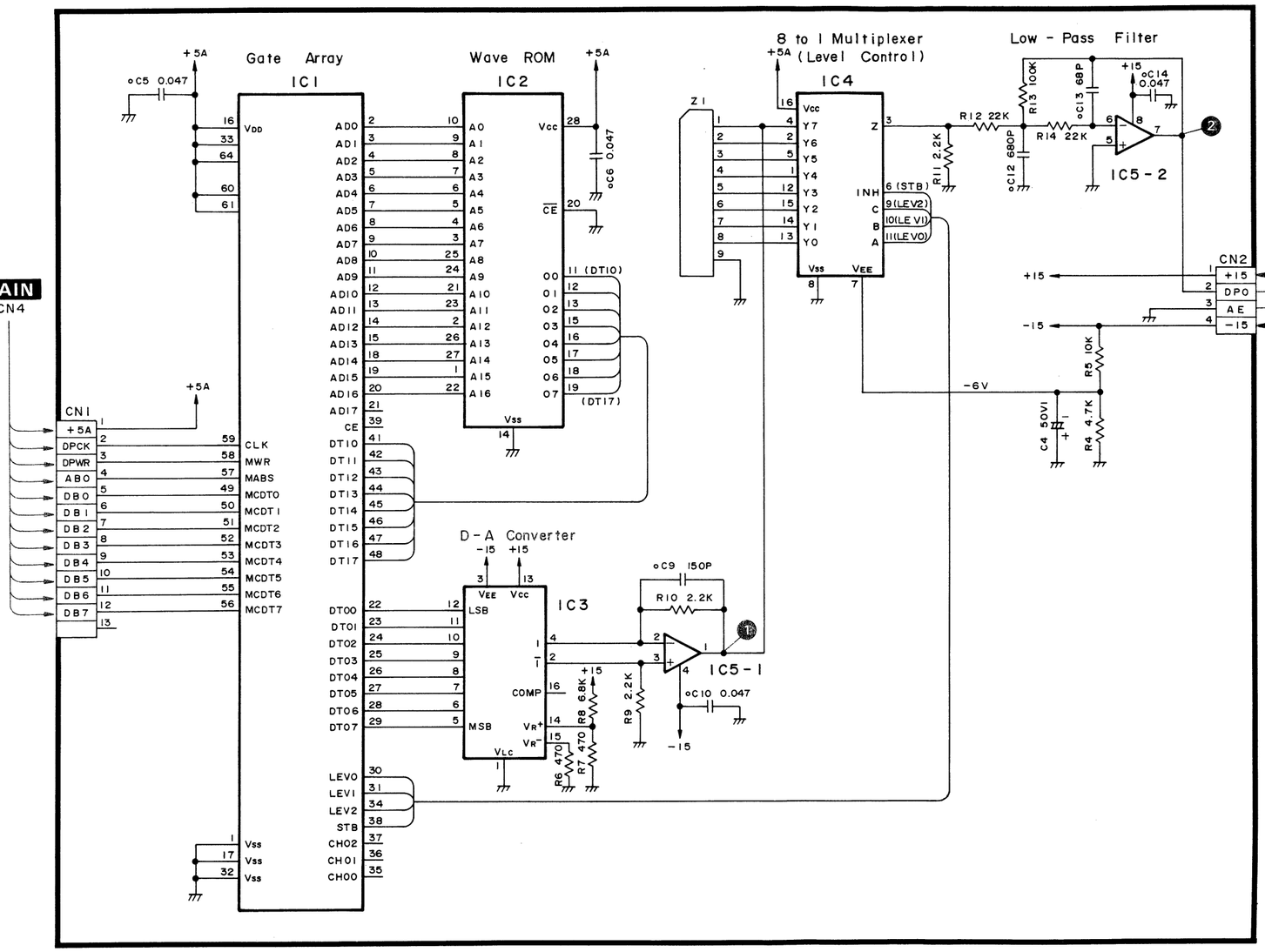


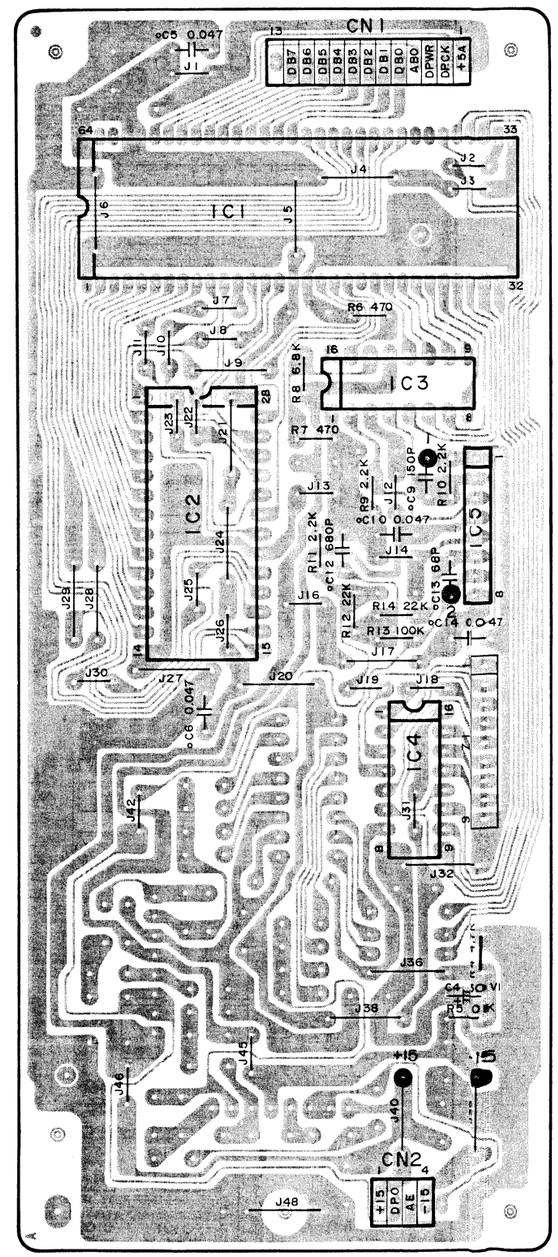
NOTES:

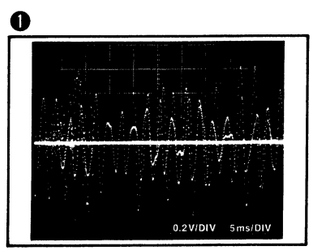
- IC'S

IC1:	SVIG2000C210
IC2, 3:	MN6635
IC4, 5:	SVIGBA9221
IC6, 7:	MN74HC4051
IC8, 9:	SVIGM5238L
IC10, 11:	SVIGM5218L
IC12~27:	MN74HC4066

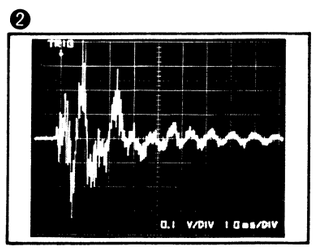
DRUM PERCUSSION CIRCUIT DIAGRAM & CIRCUIT BOARD







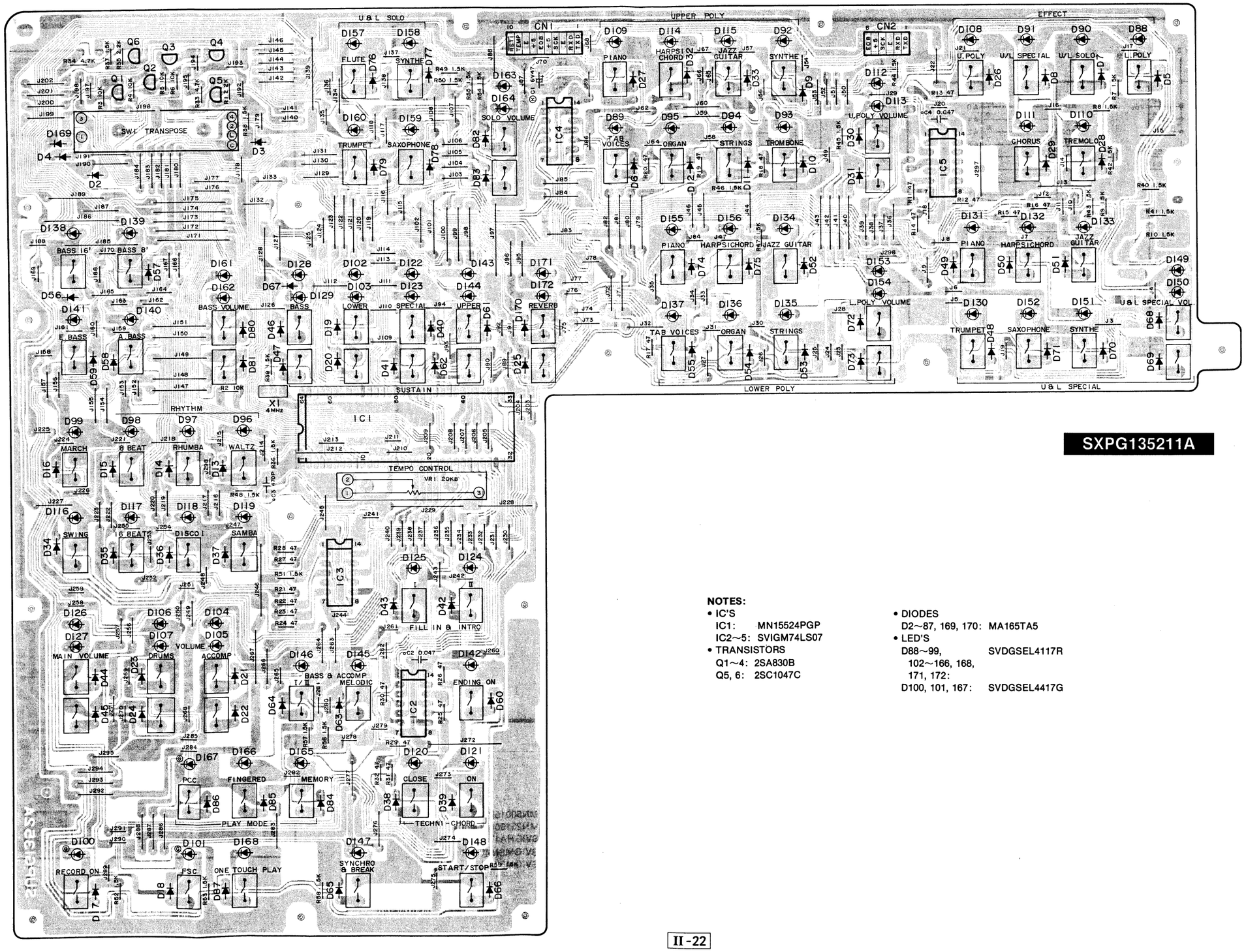
❶
- Rhythm ..... Rhumba
- Tempo ..... ♩ = 120



❷
- Rhythm ..... Disco I
- Tempo ..... ♩ = 120
- Drums Vol. ..... Step 4

NOTES:
- IC'S
  - IC1: MN50015PGQ
  - IC2: MN231001PGW
  - IC3: SVIGHA17008P
  - IC4: SVIGMSM4051R
  - IC5: SVIGM5238L

CPSL SIDE CONTROL PANEL CIRCUIT BOARD

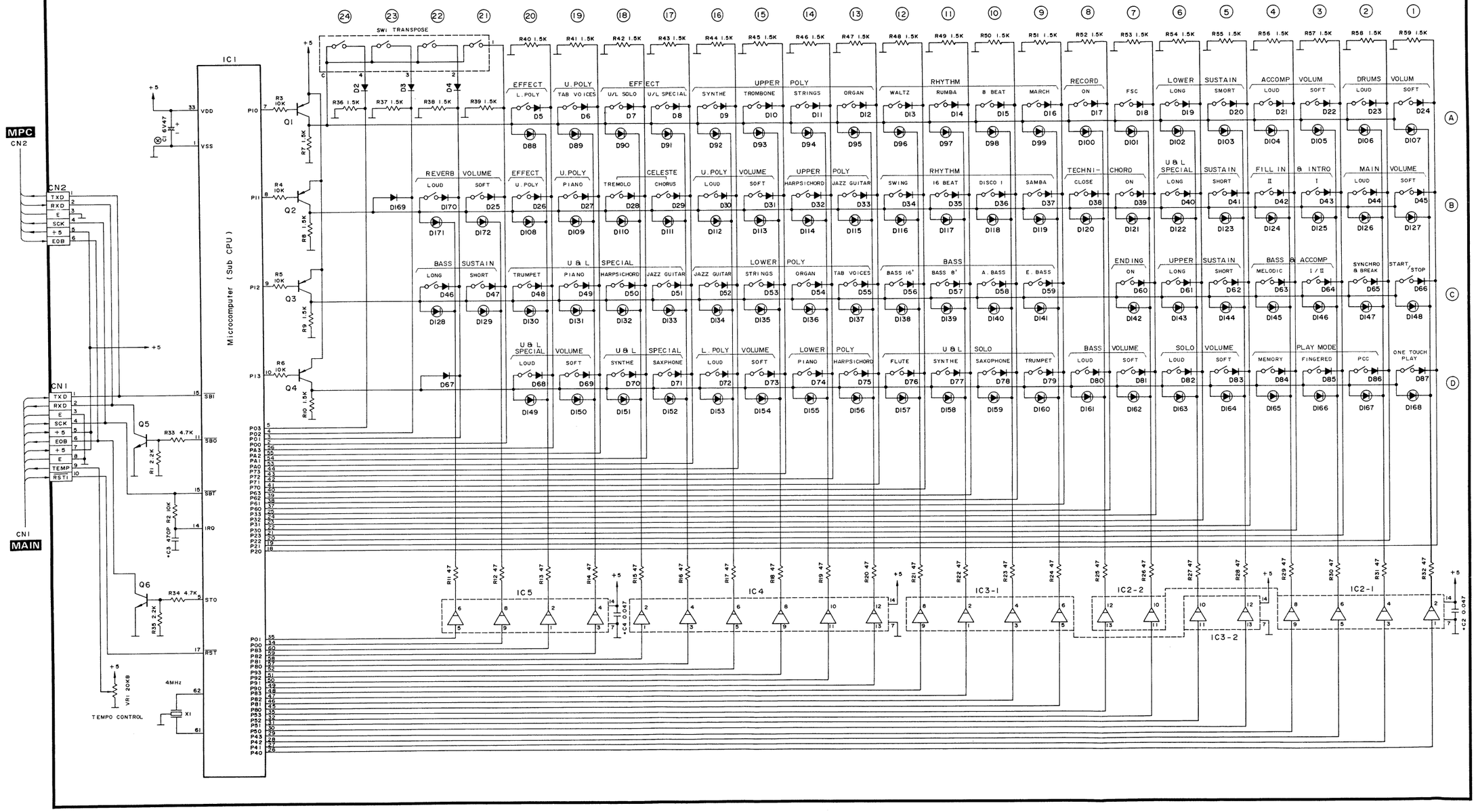


SXPG135211A

NOTES:

- IC'S
  - IC1: MN15524PGP
  - IC2~5: SVIGM74LS07
- TRANSISTORS
  - Q1~4: 2SA830B
  - Q5, 6: 2SC1047C
- DIODES
  - D2~87, 169, 170: MA165TA5
- LED'S
  - D88~99, 102~166, 168, 171, 172: SVDGSEL4117R
  - D100, 101, 167: SVDGSEL4417G

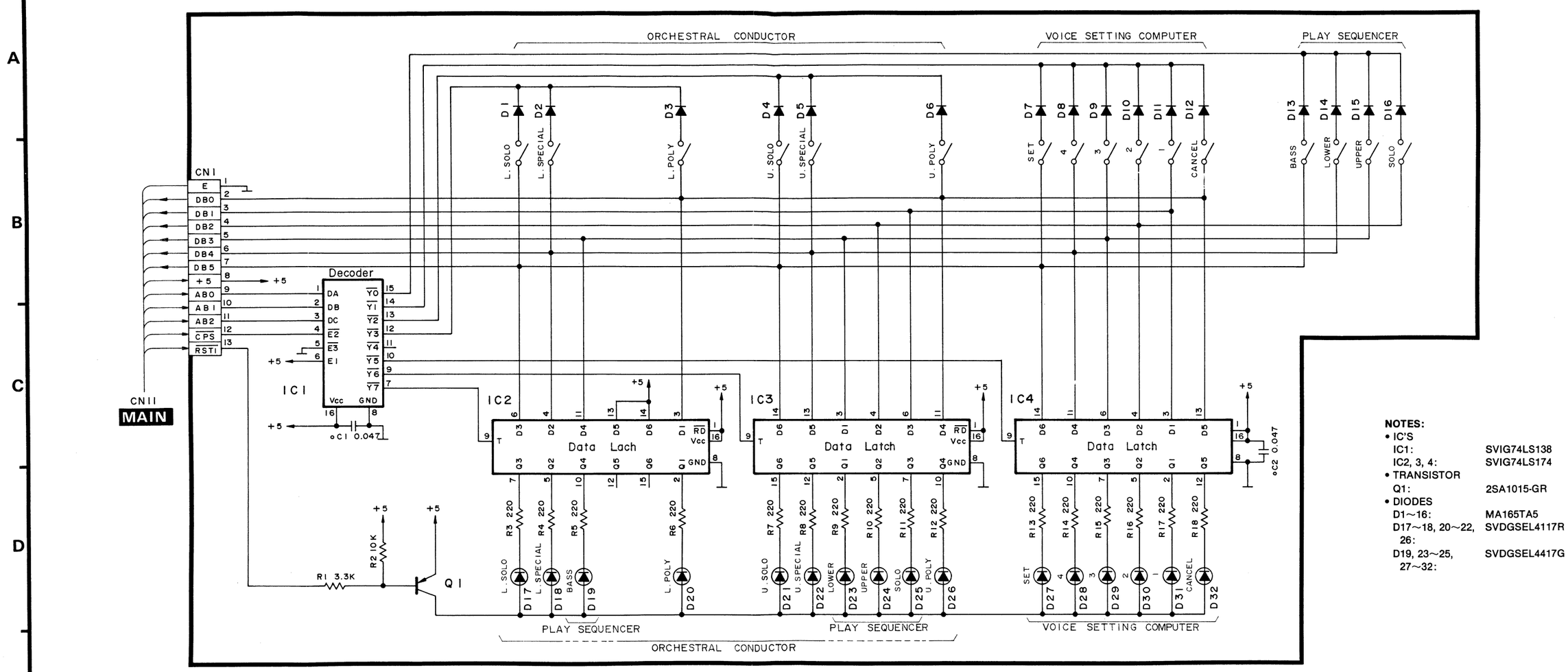
CPSL SIDE CONTROL PANEL CIRCUIT DIAGRAM



NOTES:

- IC'S
  - IC1: MN15524PGP
  - IC2~5: SVIGM74LS07
- TRANSISTORS
  - Q1~4: 2SA830B
  - Q5, 6: 2SC1047C
- DIODES
  - D2~87, 169, 170: MA165TA5
- LED'S
  - D88~99, 102~166, 168, 171, 172: SVDGSEL4117R
  - D100, 101, 167: SVDGSEL4417G

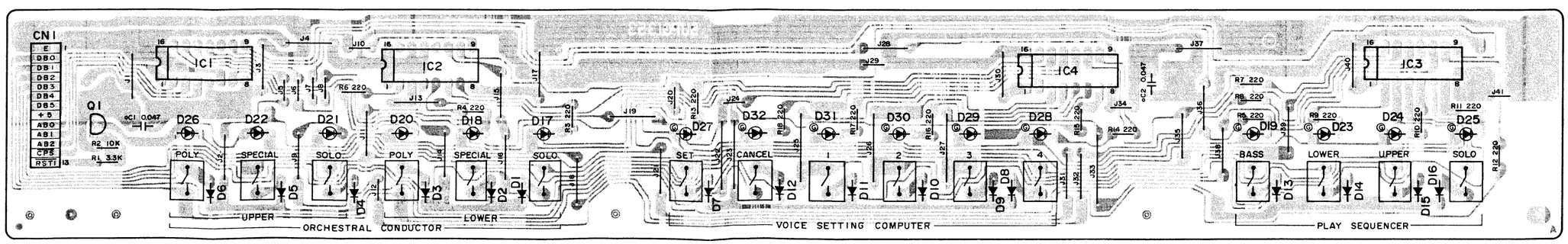
FRONT CONTROL PANEL CIRCUIT DIAGRAM & CIRCUIT BOARD



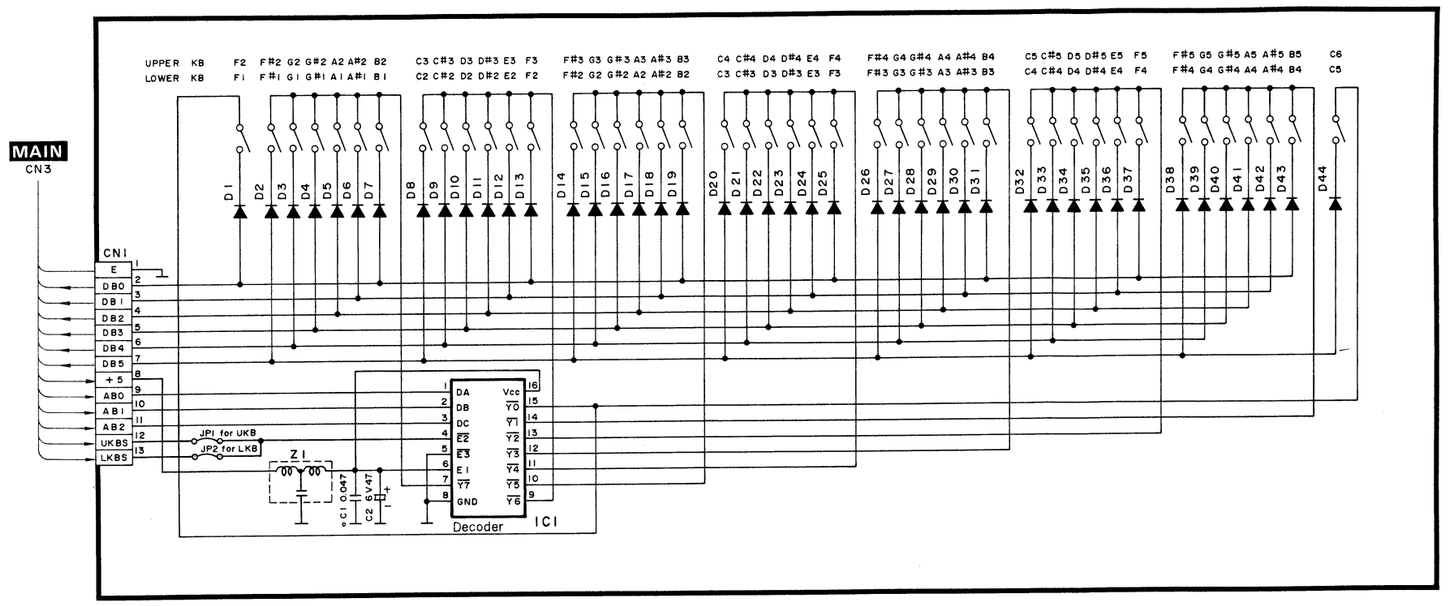
NOTES:

- IC'S
  - IC1: SVIG74LS138
  - IC2, 3, 4: SVIG74LS174
- TRANSISTOR
  - Q1: 2SA1015-GR
- DIODES
  - D1~16: MA165TA5
  - D17~18, 20~22, 26: SVDGSEL4117R
  - D19, 23~25, 27~32: SVDGSEL4417G

SXPG135311

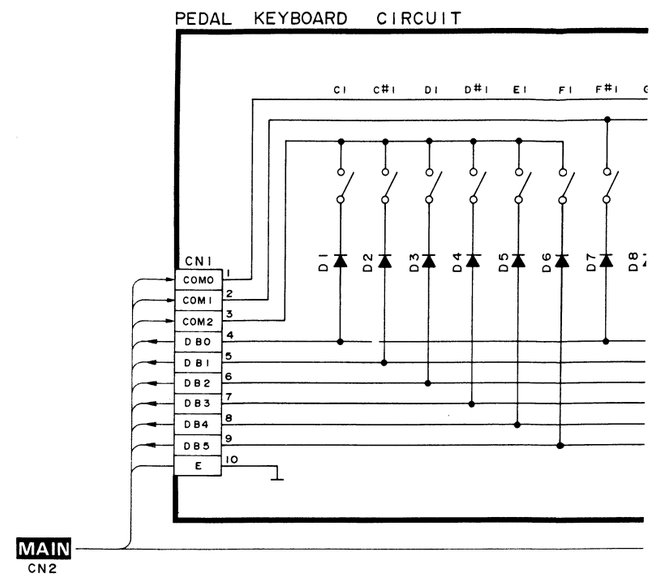


MKB MANUAL KEYBOARD CIRCUIT DIAGRAM


UPPER KB F2 F#2 G2 G#2 A2 A#2 B2 C3 C#3 D3 D#3 E3 F3 F#3 G3 G#3 A3 A#3 B3 C4 C#4 D4 D#4 E4 F4 F#4 G4 G#4 A4 A#4 B4 C5 C#5 D5 D#5 E5 F5 F#5 G5 G#5 A5 A#5 B5 C6
LOWER KB F1 F#1 G1 G#1 A1 A#1 B1 C2 C#2 D2 D#2 E2 F2 F#2 G2 G#2 A2 A#2 B2 C3 C#3 D3 D#3 E3 F3 F#3 G3 G#3 A3 A#3 B3 C4 C#4 D4 D#4 E4 F4 F#4 G4 G#4 A4 A#4 B4 C5
MAIN CN3
CN1
E DB0 DB1 DB2 DB3 DB4 DB5 +5 AB0 AB1 AB2 UKBS LKBS
JP1 for UKB
JP2 for LKB
Z1
C1 0.047
C2 6V47
DA DB DC E2 E3 E1 Y7 GND Vcc Y0 Y1 Y2 Y3 Y4 Y5 Y6
Decoder IC1

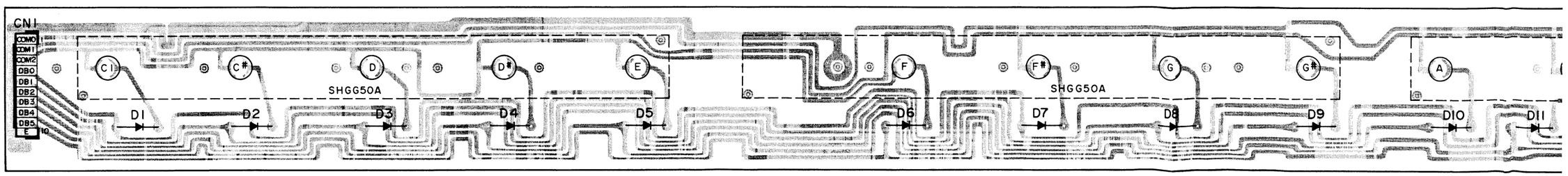
NOTES:
- IC
  IC1: SVIGM74LS138
- DIODES
  D1~44: MA165TA5

PKB PEDAL KEYBOARD CIRCUIT



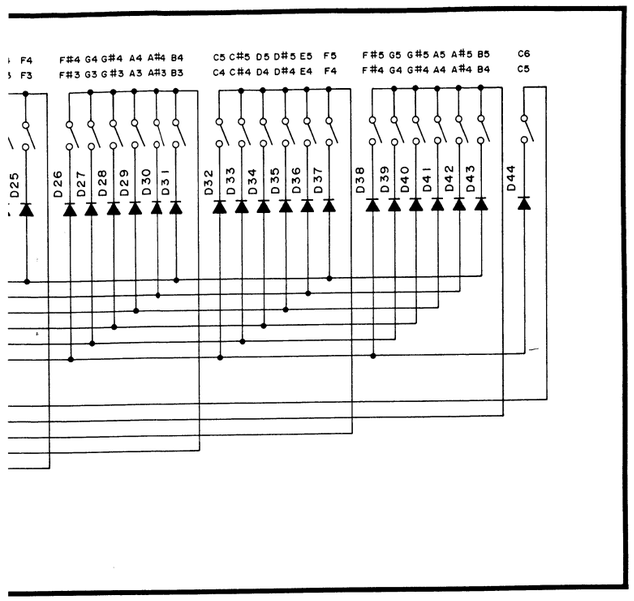
MKB MANUAL KEYBOARD CIRCUIT BOARD

PKB PEDAL KEYBOARD CIRCUIT BOARD

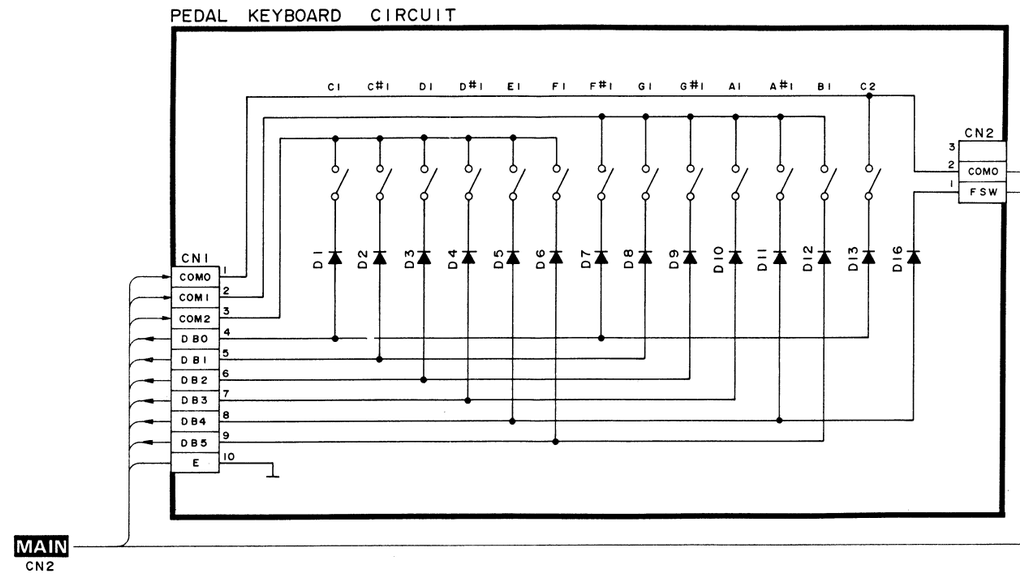


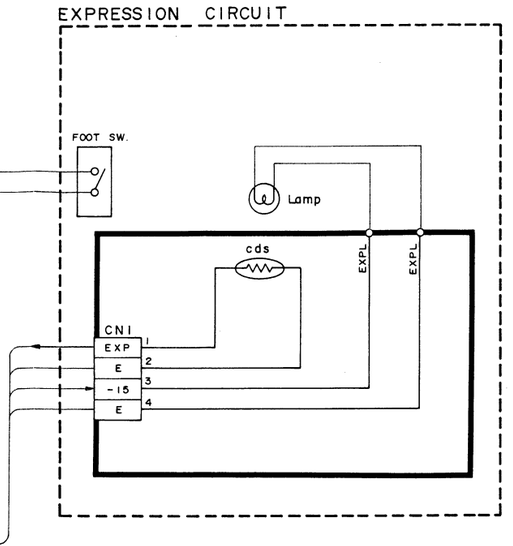
* MKB 1: Upper Manu

SXPG1



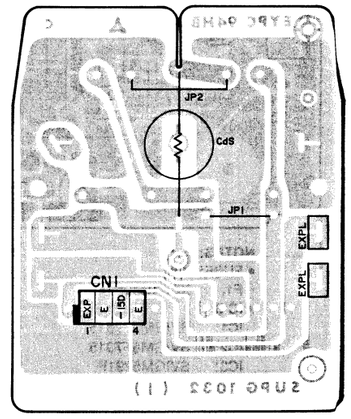
NOTES:
- IC
  IC1: SVIGM74LS138
- DIODES
  D1~44: MA165TA5





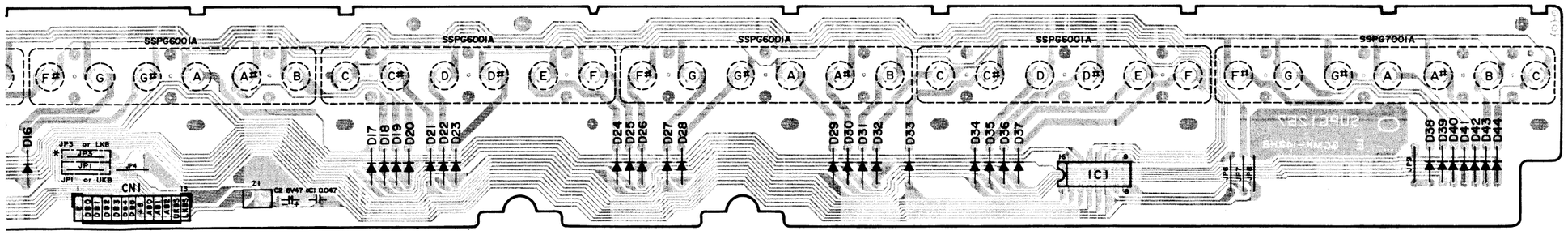
NOTES:
- DIODES
  D1~13, 16: MA162A

EXP P.C.B. SXPG103211

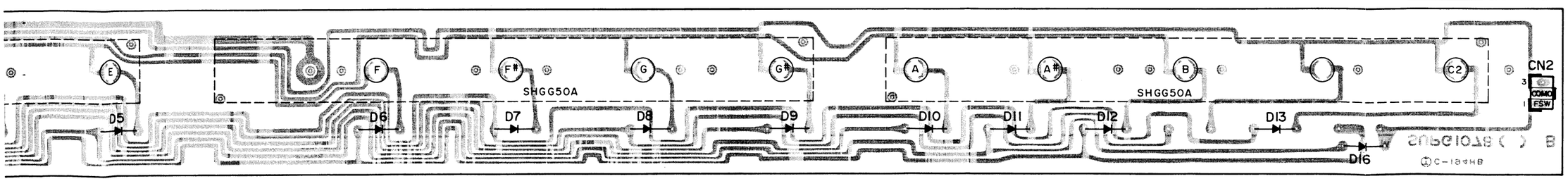


* MKB 1: Upper Manual Keyboard
SXPG126711

* MKB 2: Lower Manual Keyboard
SXPG126721

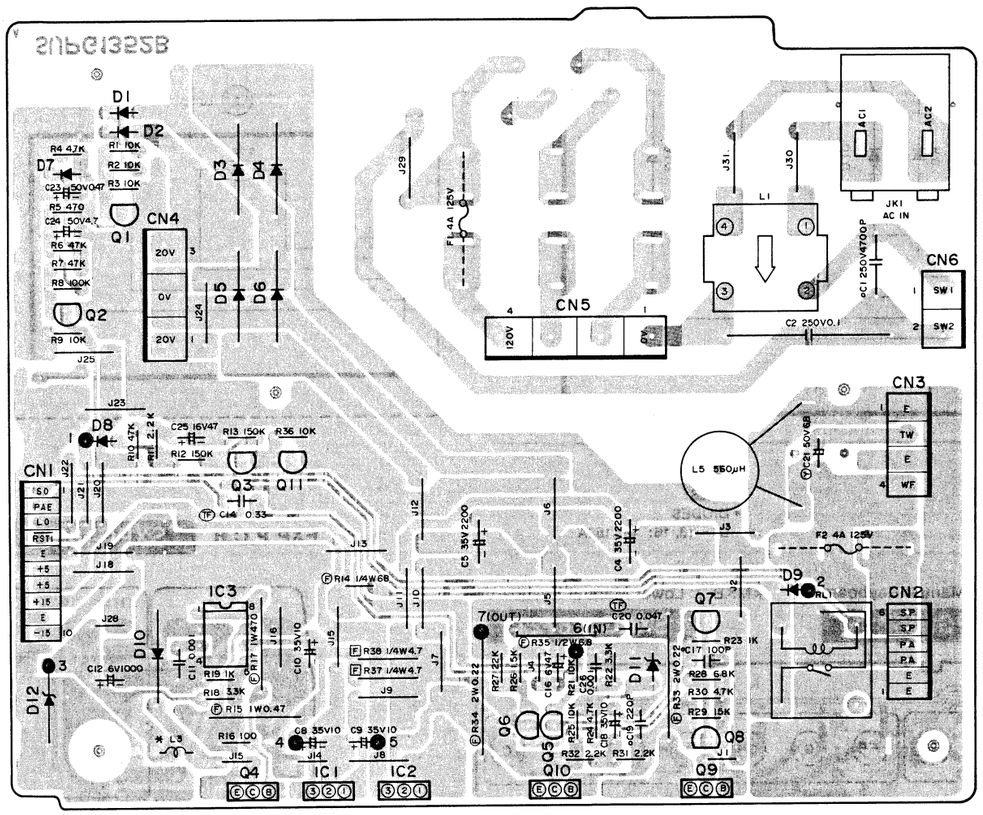


SXPG107851



AMP & POWER SUPPLY CIRCUIT BOARD

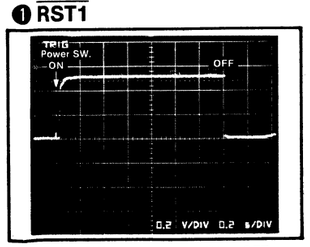
■ Products for (M) and (MC) areas. **SXPG135241B**



NOTES:

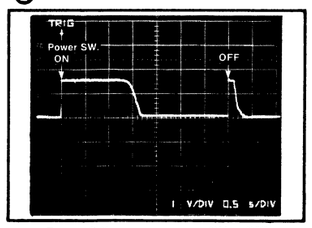
- FUSES
  - F1, 2: XBA1C40NU100
- IC'S
  - IC1: SVIGM5F7815
  - IC2: SVIGM5F7915
  - IC3: SVIGM5291P
- TRANSISTORS
  - Q1~3, 5, 6, 11: 2SC2320LFG
  - Q4: 2SB953A
  - Q7: 2SA1123S
  - Q8: 2SC1815GR
  - Q9: 2SD1277A
  - Q10: 2SB951A
- DIODES
  - D1, 2: SVDGERA1502Y
  - D3~6: SVDS3V20
  - D7~9: MA165TA5
  - D10: SVDGRK14
  - D11: MA4062
  - D12: MA2062LF

❶ RST1



• Power SW. ..... ON → OFF

❷



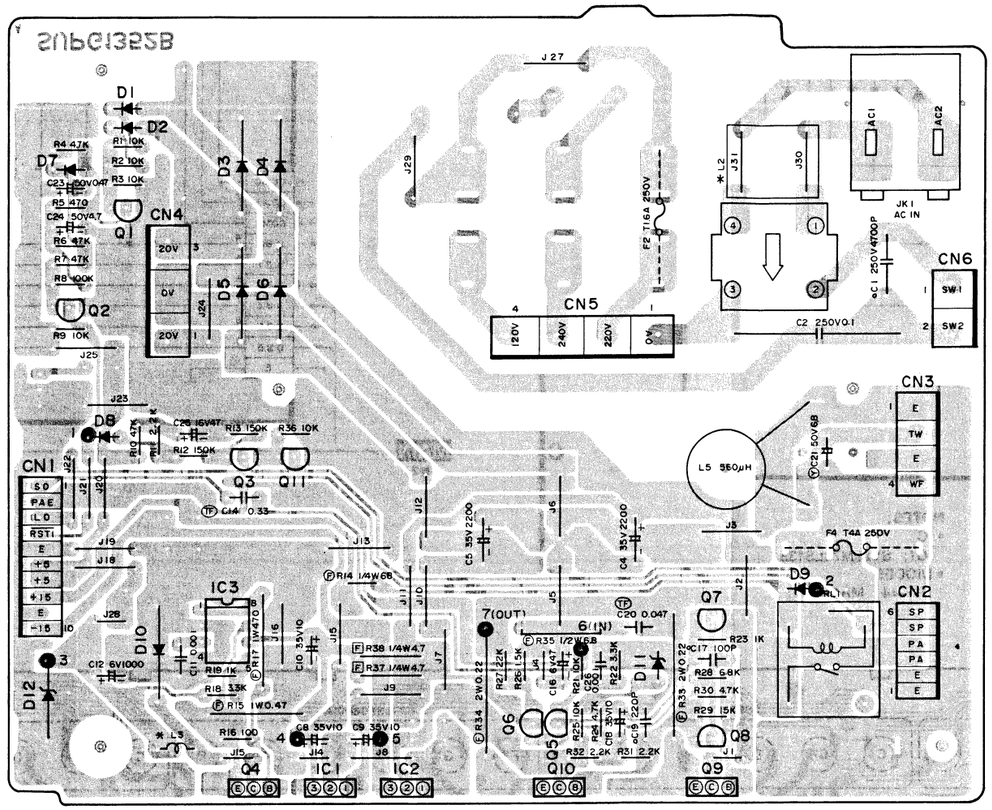
• Power SW. ..... ON → OFF

❸

+5V

■ Products for (EN) area. **SXPG135211B**

■ Products for (EZ) area. **SXPG135261B**



NOTES:

- FUSES
  - F2: XBA2C16TBO
  - F4: XBA2C40TBO

*** P.C.B. Comparison chart by area.**

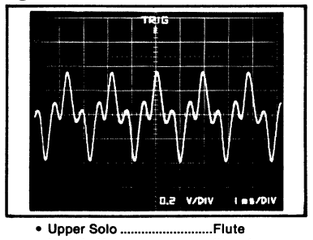
Area	P.C.B. No.	L2	L3
EN	SXPG135211B	× (J30, J31)	SLCG1A121T
EZ	SXPG135261B	SLQG10W2D1	SLCGR8121D

❹, ❺

❹ +15V

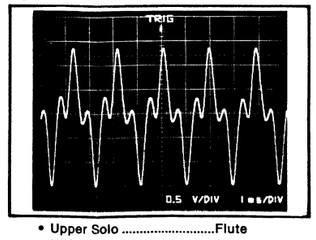
❺ −15V

❻ IN

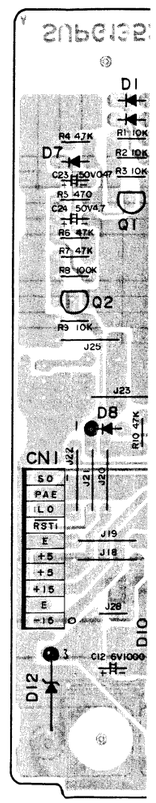


- Upper Solo ..... Flute
- U. Solo Volume..... Step 4
- Main Vol., Exp ..... Max
- Upper Key..... C4

❼ OUT



- Upper Solo ..... Flute
- U. Solo Volume..... Step 4
- Main Vol., Exp ..... Max
- Upper Key..... C4



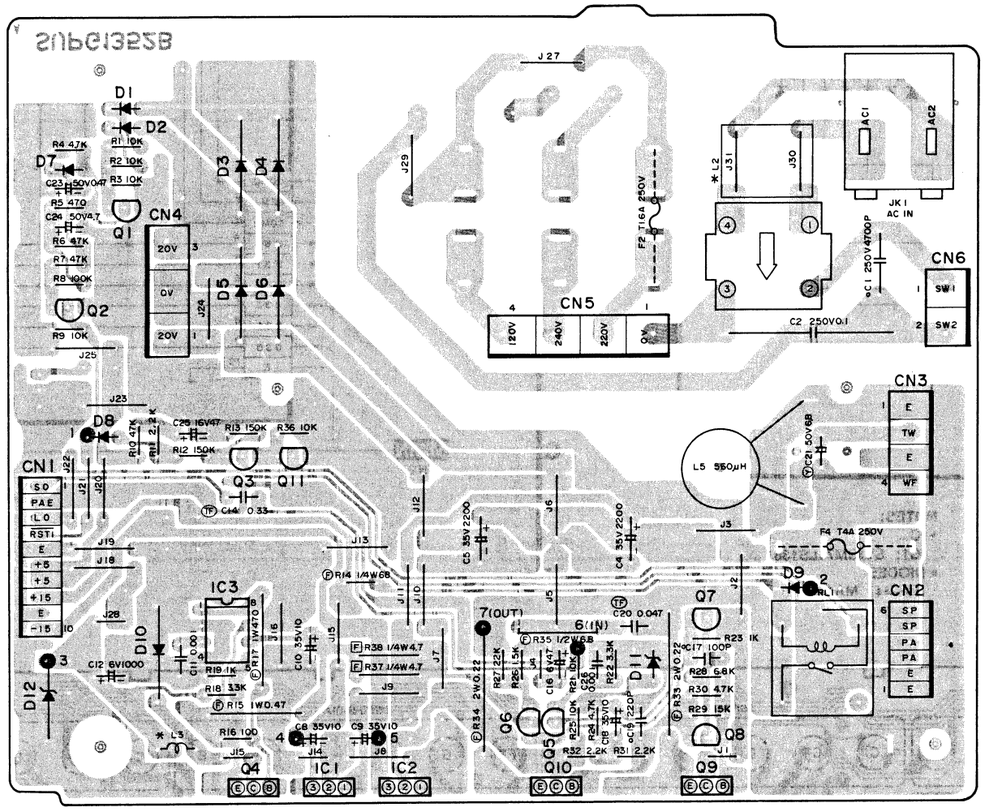
NOTES:

- FUSES
  - F1: X
  - F2, 3: X
  - F4: X

HP

■ **Products for (EN) area.** **SXPG135211B**

■ **Products for (EZ) area.** **SXPG135261B**



NOTES:
- FUSES
  F2: XBA2C16TBO
  F4: XBA2C40TBO

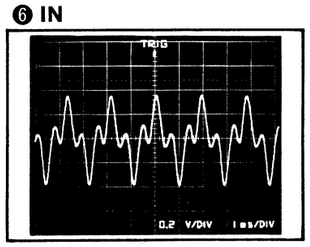
*** P.C.B. Comparison chart by area.**

Area	P.C.B. No.	L2	L3
EN	SXPG135211B	× (J30, J31)	SLCG1A121T
EZ	SXPG135261B	SLQG10W2D1	SLCGR8121D

❹, ❺

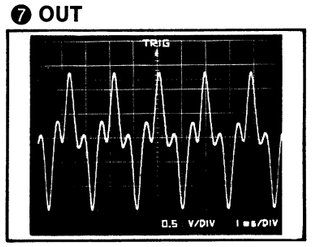
❹ +15V
❺ −15V

❻ IN



- Upper Solo .....Flute
- U. Solo Volume.....Step 4
- Main Vol., Exp .....Max
- Upper Key.....C4

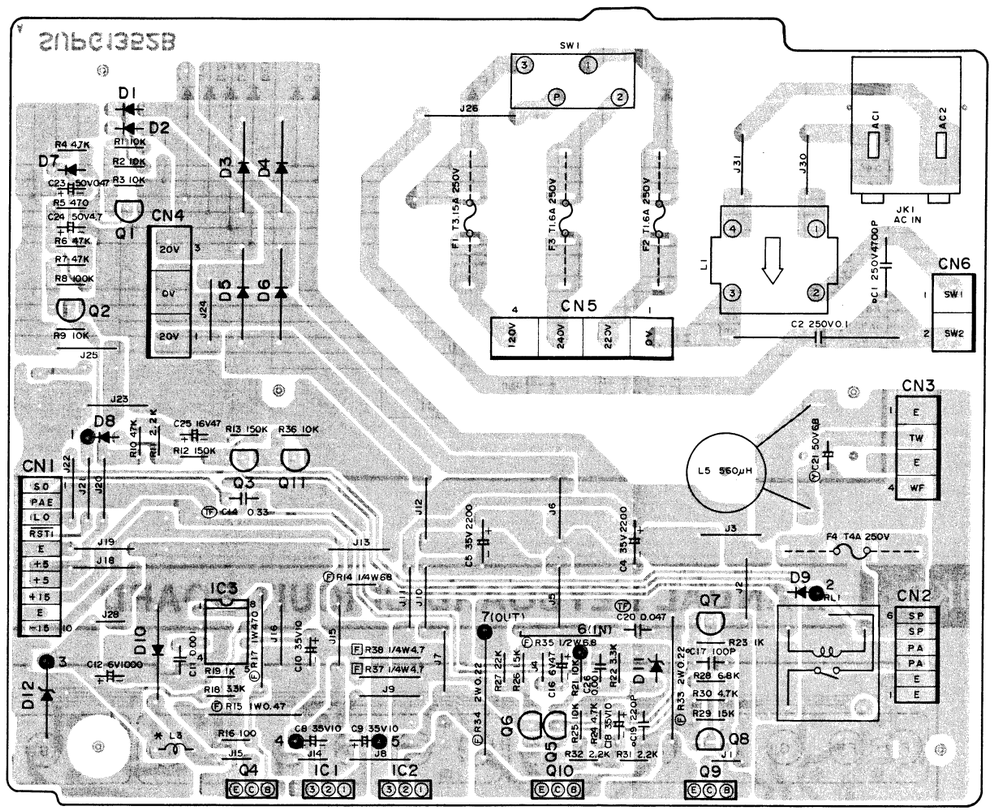
❼ OUT



- Upper Solo .....Flute
- U. Solo Volume.....Step 4
- Main Vol., Exp .....Max
- Upper Key.....C4

■ **Products for (XL) and (XR) areas.** **SXPG135231B**

■ **Products for Asia and European areas except (EN) and (EZ).** **SXPG135221B**



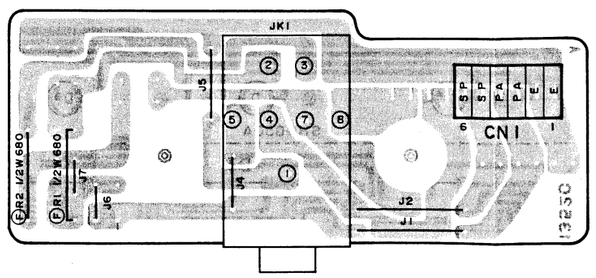
NOTES:
- FUSES
  F1: XBA2C31TBO
  F2, 3: XBA216TBO
  F4: XBA2C40TBO

*** P.C.B. Comparison chart by area.**

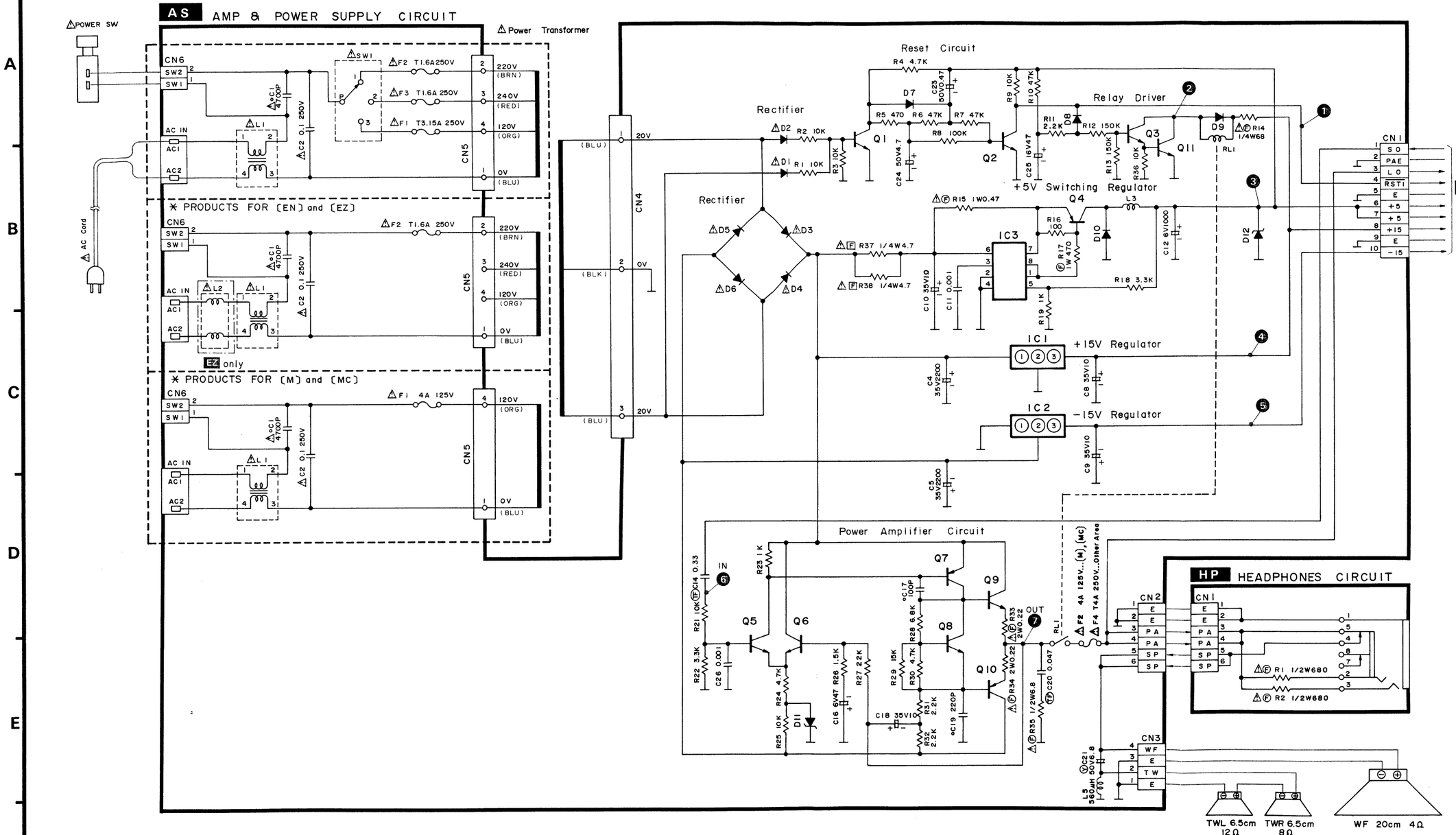
Area	P.C.B. No.	AC Inlet Cover
XL, XR	SXPG135231B	SJS9334A
Others	SXPG135221B	SJS9231A

HP HEADPHONES CIRCUIT BOARD

SXPG135211C



AS HP AMP & POWER SUPPLY, HEADPHONES CIRCUIT DIAGRAM



NOTES:

- IC'S
  - IC1: SVIGM5F7815
  - IC2: SVIGM5F7915
  - IC3: SVIGM5291P
- TRANSISTORS
  - Q1~3, 5, 6, 11: 2SC2320LFG
  - Q4: 2SB953A
  - Q7: 2SA1123S
  - Q8: 2SC1815GR
  - Q9: 2SD1277A
  - Q10: 2SB951A
- DIODES
  - D1, 2: SVDGERA1502Y
  - D3~6: SVDS3V20
  - D7~9: MA165TA5
  - D10: SVDGRK14
  - D11: MA4062
  - D12: MA2062LF

*** P.C.B. Comparison chart by area.**

Area	P.C.B. No.	L2	L3	F1	F2	F3	F4	AC Inlet Cover
M. MC	SXPG135241B	× (J30, J31)	SLCG1A121T	4A, 125V		×	×	SJS9231A
EN	SXPG135211B	× (J30, J31)	SLCG1A121T	×	1.6A, 250V	×	4A, 250V	
EZ	SXPG135261B	SLQG10W2D1	SLCGR8121D					
XL, XR	SXPG135231B	× (J30, J31)	SLCG1A121T	3.15A, 250V	1.6A 250V	1.6A, 250V	4A, 250V	SJS9334A
Others	SXPG135221B							SJS9231A

REPLACEMENT PARTS LIST..... Cabinet and Chassis Parts

Notes:

1. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
2. ○ mark are new parts.
3. For part No. with area mark, check the area when placing an order.

■ Upper Cabinet

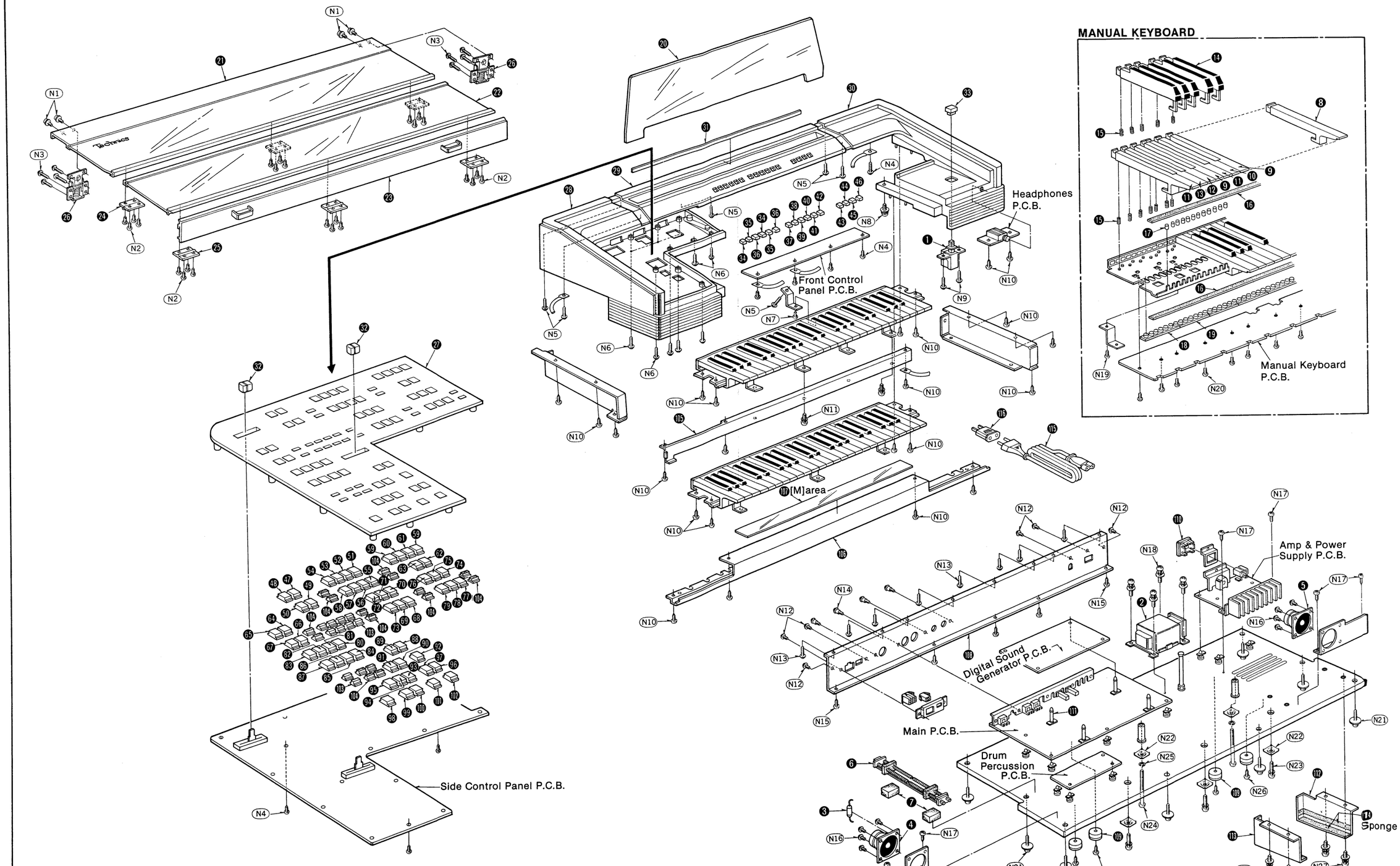
Ref. No.	Part No.	Description	Per/Set
SWITCH			
1 ⚠	ESB8213V	Power Switch	1
TRANSFORMERS			
○ 2 ⚠	SLTG5M33	Power Transformer	1
○ 2 M MC ⚠	SLTG5M34	Power Transformer, [M], [MC] areas	1
RESISTOR			
3 ⚠	ERX2ANJ4R7	4.7Ω, 2W	1
SPEAKERS			
○ 4	EAS65PH05GA	6.5cm, 12Ω	1
○ 5	EAS65PH31A	6.5cm, 8Ω	1
REVERB UNIT			
6	SJUG25005N	Reverberation Unit	1
7	SHRG550	Cushion	2
MANUAL KEYBOARD			
8	STBG1150A	White Key (Top Octave C Key)	1×2
9	STBG1120A	White Key (B & E Key)	7×2
10	STBG1110A	White Key (D Key)	3×2
11	STBG1100A	White Key (C & F Key)	7×2
12	STBG1140A	White Key (A Key)	4×2
13	STBG1130A	White Key (G Key)	4×2
14	STBG2070A	Black Key	18×2
15	SUSG270A	Spring	44×2
16	SUSG1931A	Felt	2×2
17	SUGG9050A	Key Guide Rubber	44×2
18	SSPG7001A	Rubber Switch (7 continuous)	2×2
19	SSPG6001A	Rubber Switch (6 continuous)	5×2
MUSIC RACK (EX30L only)			
○ 20	SKGG1B130A	Music Rack	1
○ 20 EK	SKGG1B130B	Music Rack, [EK] area	1
KEYBOARD COVER (EX30 only)			
○ 21	SKZG8380A-1	Keyboard Cover 1	1
○ 22	SKZG8380A-2	Keyboard Cover 2	1
○ 23	SKZG8380A-3	Keyboard Cover 3	1
○ 24	SBHG190A	Hinge	3
○ 25	SBHG200A	Hinge	3
○ 26	SBHG210A	Hinge	2

Ref. No.	Part No.	Description	Per/Set
COVER PANEL (EX30L/EX30)			
	SX-EX30L		
○ 27	SGWG8140A	Side Control Panel	1
○ 28	SYWG8150A	Cover Panel, Left	1
○ 28 M	SYWG8150B	Cover Panel, Left, [M] area	1
○ 29	SGWG1820A	Front Control Panel	1
○ 29 M	SGWG1820B	Front Control Panel, [M] area	1
○ 30	SYWG8160A	Cover Panel, Right	1
○ 30 M	SYWG8160B	Cover Panel, Right, [M] area	1
○ 31	SHGG6180A	Rubber Cushion	1
	SX-EX30		
○ 27	SGWG8140B	Side Control Panel	1
○ 28	SYWG8151A	Cover Panel, Left	1
○ 29	SGWG1820A	Front Control Panel	1
○ 30	SYWG8161A	Cover Panel, Right	1
KNOBS, BUTTONS			
32	SBNG7050A	KNOB (TRANSPOSE, TEMPO)	2
33	SBCG110B	BUTTON, POWER SW.	1
○ 34	SBCG270F01	POLY (ORCHESTRAL CONDUCTOR)	2
○ 35	SBCG270G01	SPECIAL (ORCHESTRAL CONDUCTOR)	2
○ 36	SBCG270D01	SOLO (ORCHESTRAL CONDUCTOR)	2
○ 37	SBCG270C14	SET (VOICE SETTING COMPUTER)	1
○ 38	SBCG270A12	CANSEL (VOICE SETTING COMPUTER)	1
○ 39	SBCG270A13	1 (VOICE SETTING COMPUTER)	1
○ 40	SBCG270A14	2 (VOICE SETTING COMPUTER)	1
○ 41	SBCG270A15	3 (VOICE SETTING COMPUTER)	1
○ 42	SBCG270A16	4 (VOICE SETTING COMPUTER)	1
○ 43	SBCG270A17	BASS (PLAY SEQUENCER)	1
○ 44	SBCG270F12	LOWER (PLAY SEQUENCER)	1
○ 45	SBCG270F13	UPPER (PLAY SEQUENCER)	1
○ 46	SBCG270D01	SOLO (PLAY SEQUENCER)	1
○ 47	SBCG270D02	SYNTHE (U & L SOLO)	1
○ 48	SBCG270D03	FLUTE (U & L SOLO)	1
○ 49	SBCG270D04	SAXOPHONE (U & L SOLO)	1
○ 50	SBCG270D05	TRUMPET (U & L SOLO)	1
○ 51	SBCG270F02	SYNTHE (UPPER POLY)	1
○ 52	SBCG270F03	JAZZ GUITAR (UPPER POLY)	1
○ 53	SBCG270F04	HARPSICHORD (UPPER POLY)	1
○ 54	SBCG270F05	PIANO (UPPER POLY)	1
○ 55	SBCG270F06	TROMBONE (UPPER POLY)	1
○ 56	SBCG270F07	STRINGS (UPPER POLY)	1
○ 57	SBCG270F08	ORGAN (UPPER POLY)	1
○ 58	SBCG270G02	TAB VOICES (UPPER POLY)	1
○ 59	SBCG270F01	POLY (EFFECT)	2
○ 60	SBCG270G01	SPECIAL (EFFECT)	1
○ 61	SBCG270D01	SOLO (EFFECT)	1
○ 62	SBCG270C01	TREMOLO (EFFECT)	1
○ 63	SBCG270C02	CHORUS (EFFECT)	1

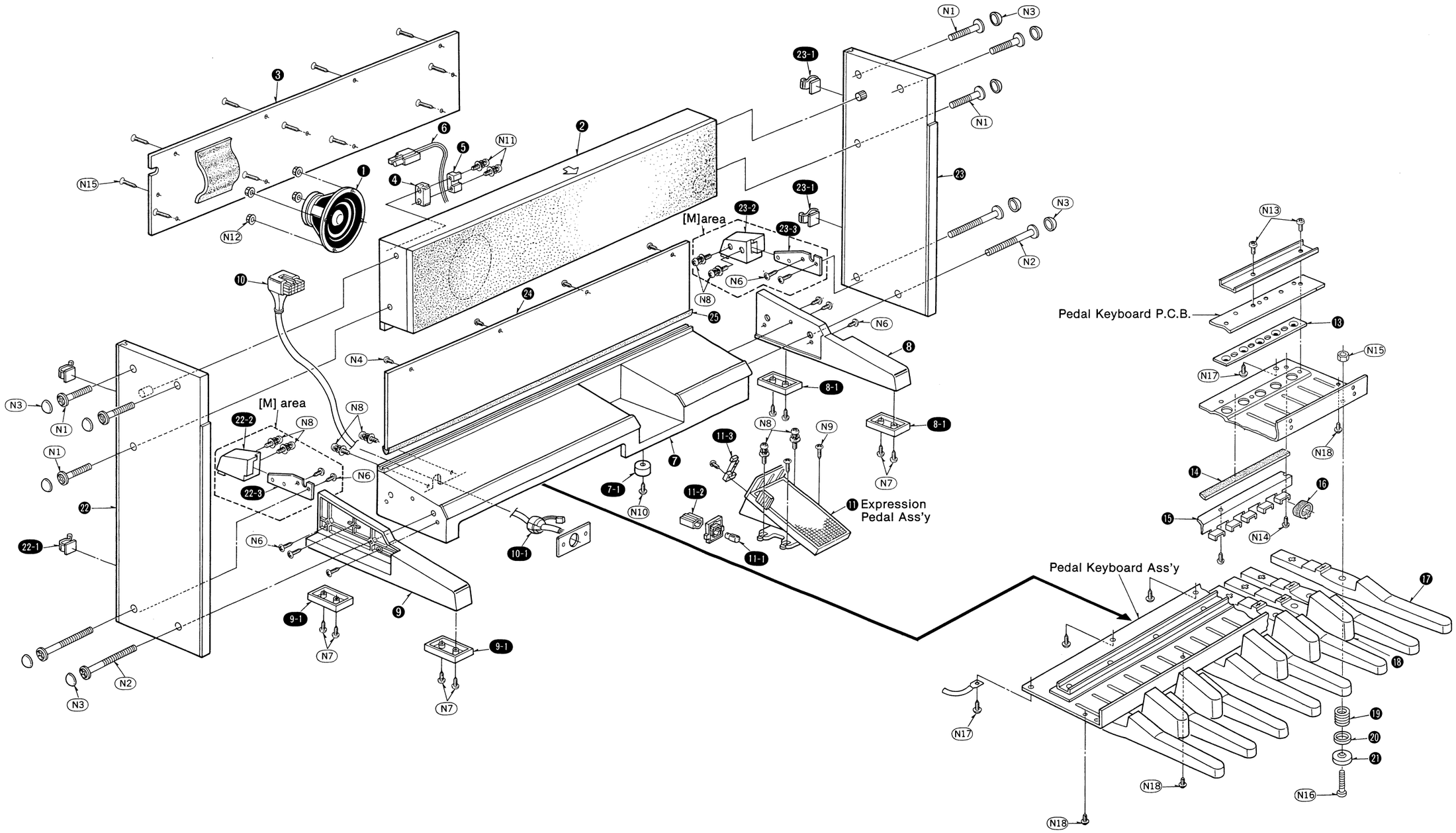
Ref. No.	Part No.	Description	Per/Set
○ 64	SBCG270A01	BASS 8′ (BASS)	1
○ 65	SBCG270A02	BASS 16′ (BASS)	1
○ 66	SBCG270A03	ACOUSTIC BASS (BASS)	1
○ 67	SBCG270A04	ELECTRIC BASS (BASS)	1
○ 68	SBCG270F07	STRINGS (LOWER POLY)	1
○ 69	SBCG270F08	ORGAN (LOWER POLY)	1
○ 70	SBCG270F09	JAZZ GUITAR (LOWER POLY)	1
○ 71	SBCG270F10	HARPSICHORD (LOWER POLY)	1
○ 72	SBCG270F11	PIANO (LOWER POLY)	1
○ 73	SBCG270G02	TAB VOICES (LOWER POLY)	1
○ 74	SBCG270G03	JAZZ GUITAR (U & L SPECIAL)	1
○ 75	SBCG270G04	HARPSICHORD (U & L SPECIAL)	1
○ 76	SBCG270G05	PIANO (U & L SPECIAL)	1
○ 77	SBCG270G06	SYNTHE (U & L SPECIAL)	1
○ 78	SBCG270G07	SAXOPHONE (U & L SPECIAL)	1
○ 79	SBCG270G08	TRUMPET (U & L SPECIAL)	1
○ 80	SBCG270C03	WALTZ (RHYTHM)	1
○ 81	SBCG270C04	RHUMBA (RHYTHM)	1
○ 82	SBCG270C05	8 BEAT (RHYTHM)	1
○ 83	SBCG270C06	MARCH (RHYTHM)	1
○ 84	SBCG270C07	SAMBA (RHYTHM)	1
○ 85	SBCG270C08	DISCO I (RHYTHM)	1
○ 86	SBCG270C09	16 BEAT (RHYTHM)	1
○ 87	SBCG270C10	SWING (RHYTHM)	1
○ 88	SBCG270A05	II (FILL IN & INTRO)	1
○ 89	SBCG270A06	I (FILL IN & INTRO)	1
○ 90	SBCG270A07	MELODIC (BASS & ACCOMP)	1
○ 91	SBCG270A08	I/II (BASS & ACCOMP)	1
○ 92	SBCG270G09	ON (ENDING)	1
○ 93	SBCG270A10	MEMORY (PLAY MODE)	1
○ 94	SBCG270A11	FINGERED (PLAY MODE)	1
○ 95	SBCG270C12	PCC (PLAY MODE)	1
○ 96	SBCG270A09	ON (TECHNI-CHORD)	1
○ 97	SBCG270C11	CLOSE/PROGRAM (TECHNI-CHORD)	1
○ 98	SBCG270D06	ON, RECORD	1
○ 99	SBCG270G10	FSC	1
○ 100	SBCG270H02	ONE TOUCH PLAY	1
○ 101	SBCG270C13	SYNCHRO & BREAK	1
○ 102	SBCG270H01	START/STOP	1
○ 103	SBCG260A	MAIN VOLUME, SUSTAIN	10
○ 104	SBCG260C	VOLUME (U & L SOLO, UPPER POLY, LOWER POLY, U & L SPECIAL, REVERB, BASS, DRUMS, ACCOMP)	16
ORNAMENT PANEL			
○ 105	SGXG2480A	Ornament Panel, for Lower Keyboard	1
○ 106	SGXG2470A	Front Panel	1
○ 107 M	SHRGA5400A	Indication Sheet, [M] area only	1

Ref. No.	Part No.	Description	Per/Set
○ 108 M MC EN EZ	SGXG2490A	Rear Accessory Panel	1
○ 108	SGXG2491A	Rear Accessory Panel, Except for [M], [MC], [EN], [EZ] areas	1
OTHERS			
109	SKLA7-2	Foot	4
110	SJS9231A	AC Inlet Cover	1
110 XL XR	SJS9334A	AC Inlet Cover, [XL], [XR] areas	1
111	SHRG9340A	P.C.B. Holder	4
ACCESSORIES			
○ 112	SUWG2730A	Bracket, Right	1
○ 113	SUWG2731A	Bracket, Left	1
○ 114	SHGG8440A	Sponge	4
115 ⚠	SJAG41	AC Cord	1
115 EK ⚠	SJAG39	AC Cord, [EK], [XS], [XD] areas	1
XS XD			1
115 ⚠ XL XR	SJAG61	AC Cord, [XL], [XR] areas	1
115 ⚠ M MC	SJAG62	AC Cord, [M], [MC] areas	1
116 X ⚠	SJP5213-1	Attachment Plug, [X] area	1
116 XD ⚠	SJPG1350A	Attachment Plug, [XD] area	1
○ EN	SQFGA540	Instruction Book, [EN] area	1
○ M	SQFGA560	Instruction Book, [M] area	1
○	SQFGA550	Instruction Book, Except for [EN] and [M] areas	1
○	SZ-CM104C	Bench, Except for [M] area	1
SCREWS & WASHERS			
N1 EX30	XYN3+F6FZ	Screw, with Washer (EX30 only)	4
N2 EX30	XTB3+6FFZ	Screw (EX30 only)	24
N3 EX30	XTW3+16JFZ	Screw (EX30 only)	8
N4	XTV3+10G	Screw	8
N5	XTW3+12Q	Screw	6
N6	XTW3+14J	Screw	13
N7	XTB3+6C	Screw	1
N8	XYN4+F10	Screw, with Washer	1
N9	SNEG740A	Screw	2
N10	XTB4+12A	Screw	23
N11	XYN5+C10	Screw, with Washer	2
N12	XTW3+8JFZ	Screw	6
N13	XTW3+12QFVC	Screw	8
N14	SNEG1241A	Screw	4
N15	XTB35+10AFZ	Screw	5
N16	XTW3+6J	Screw	8
N17	XTB35+8A	Screw	6
N18	XYN4+F12	Screw, with Washer	4
N19	XTB3+5C	Screw	7
N20	XTW3+10T	Screw	24
○ N21	SNEG1810A	Screw, with Washer	8
N22	SNEG150A	Washer	5
N23	XYN5+C25	Screw, with Washer	3
N24	XSN5+85	Screw	2
N25	XWA5B	Washer	2
N26	XTB35+12A	Screw	4
N27	XYN4+F16FZ	Screw, with Washer	4

EXPLODED VIEWS OF CABINET



EXPLODED VIEWS OF STAND



■ STAND

Ref. No.		Part No.	Description	Per/Set
SPEAKER BOX				
○ 1		EAS20PL255A	Speaker, 20cm, 4Ω	1
○ 2		SKZG9320A	Speaker Box	1
○ 2	M	SKZG9320B	Speaker Box, [M] area	1
○ 3		SYUG2120A	Rear Board	1
4		SHRG1110A	Cord Clamper	1
5		SHRG1120A	Cord Clamper	1
○ 6		SWKG0239ZA	Wire with Connector	1
PEDAL BOX				
○ 7		SKZGD260A	Pedal Box Ass'y	1
7-1		[SKLA7-2	Foot	1
○ 8		SKLG181A	Leg, Right	1
8-1		[SHRG2171A	Foot	2
○ 9		SKLG171A	Leg, Left	1
9-1		[SHRG2171A	Foot	2
○ 10		SWKG154ZB	Wire with Connector	1
10-1		[SHRG1190A	Bushing	1
EXPRESSION PEDAL				
○ 11		SXVG5070A	Expression Pedal Ass'y	1
11-1		XAMR55P	Lamp	1
11-2		RJS205ZA	Socket	1
11-3		SSHG14	Foot Switch	1
PEDAL KEYBOARD				
13		SHGG50A	Rubber Switch (5 continuous)	3
14		SHSG1600B	Felt (Key Stopper)	1
15		STBG4011A	Key Guide	1
16		SHSG1460A	Felt (Key Guide)	13
17		STBG1090C	White Key	8
18		STBG2052A	Black Key	5
19		SUSG180A	Spring	13
20		SHGG8130A	Rubber	13
21		SHRG9240A	Spacer	13

Ref. No.		Part No.	Description	Per/Set
PLANK, REAR BOARD				
○ 22		SKSG1840A	Left Plank Ass'y	1
22-1		[SHRG9620A	Cord Clamper	2
○ 22	M	SKSG1841A	Left Plank Ass'y	1
22-1	M	[SHRG9620A	Cord Clamper } [M] area	2
○ 22-2	M	SKLG190A	Leg } [M] area	1
○ 22-3	M	SUWG2770A	Bracket } [M] area	1
○ 23		SKSG1850A	Right Plank Ass'y	1
23-1		[SHRG9620A	Cord Clamper	2
○ 23	M	SKSG1851A	Right Plank Ass'y	1
23-1	M	[SHRG9620A	Cord Clamper } [M] area	2
○ 23-2	M	SKLG200A	Leg } [M] area	1
○ 23-3	M	SUWG2770A	Bracket } [M] area	1
○ 24		SKFG1230A	Rear Board	1
○ 25		SHSG5540A	Felt	1
SCREWS				
○		SPBG3210A	Screw Kit	1
○ N1		[SNEG1820A	Bolt	6
○ N2		SNEG1720B	Bolt	4
○ N3		SNEG1760B	Cap	10
N4		[XST4+20FZ	Screw	4
N5		XTS35+25AFZ	Screw	11
N6		XTT4+20A	Screw	10
N7		XTV3+16G	Screw	8
N8		XYN4+F20FZ	Screw, with Washer	8
N9		XTT4+12AFZ	Screw	2
N10		XTB35+16A	Screw	1
N11		XYN3+F20	Screw, with Washer	2
N12		SNE491	Nut	4
N13		XTB3+6F	Screw	6
N14		XTB3+6B	Screw	5
N15		XNG5BS	Nut	13
N16		SNEG360A	Bolt	13
N17		XTT4+14A	Screw	4
N18		XTW3+8M	Screw	3

REPLACEMENT PARTS LIST.....P.C.B. and Wiring Parts

Notes:

1. Printed circuit boards are supplied only during the period of production.
2. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. The "S" mark is service standard parts and may differ from production parts.
4. ○ mark are new parts.
5. For part No. with area mark, check the area when placing an order.

■ Numbering System of Resistor

- All resistors are 1/4 WATT, ±5% TOLERANCE unless otherwise designated in the schematic diagram.
- Resistors with Ⓕ symbolic mark are Flame-Proof resistors.
- Resistors with 🄵 symbolic mark are fuse type Flame-Proof resistors.

Resistor Type	Wattage	Tolerance
ERD : Carbon ERD—F : Carbon, Flame-Proof ERO : Metal Film	S2 : 1/4W 2 : 1/4W 25 : 1/4W 50 : 1/2W	F : ±1% G : ±2% J : ±5%
ERQ : Metal Oxide Fuse Type ERG : Metal Oxide ERX : Metal Film	14 : 1/4W 1 : 1W	

Example:

Carbon:	ERD Type	S2 Wattage	T Shape	J Tolerance	101 Value	
Carbon Flame-Proof:	ERD Type	2 Wattage	F Flame-Proof	C Fuse Type	G Tolerance	101 Value
Metal Oxide, Fuse Type:	ERQ Type	14 Wattage	A Flame-Proof	J Tolerance	2R0 Value	
Metal Oxide, (Metal Film):	ERG(X) Type	1 Wattage	AN Shape	J Tolerance	221 Value	

■ Numbering System of Capacitor

- All capacitors are microfarads unless otherwise specified in the schematic diagram.

Capacitor Type	Symbol Mark	Voltage		Tolerance
		ECEA Type	Others	
ECEA(T) : Electrolytic ECEA—N : Non-Polar Electrolytic ECEA—Y : Non-Polar Electrolytic ECEA—M : Electrolytic, MSR Series ECEA—K : Electrolytic, miniature type ECQV : TF Capacitor ECQM(G) : Polyester ECC : Ceramic ECK : Ceramic	Ⓝ Ⓨ Ⓜ Ⓚ Ⓣ ○ ○	0J : 6.3V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 35 : 35V	1H : 50V 1E : 25V	ECEA Type : ±20% J : ±5% K : ±10% Z : +80% −20%

Example:

Electrolytic:	ECEA(T) Type	0J Voltage	U(R) Peculiarity use	470 Value			
MSR Series:	ECEA Type	50 Voltage	M Peculiarity use	1 Value	R Special use		
TF, Polyester:	ECQV Type	1H Voltage	104 Value	J Tolerance			
Ceramic:	ECC Type	R Shape	1H Voltage	220 Value	J Tolerance		
Ceramic:	ECK Type	R Shape	1E Voltage	473 Value	Z Tolerance	V Peculiarity use	

■ PRINTED CIRCUIT BOARD

Ref. No.	Part No.	Description	Per/Set
○	SXPG135011	Main	1
○ EZ M	SXPG135021	Main, [EZ], [M] areas	1
○	SXPG135111	Digital Sound Generator	1
○	SXPG135411	Drum Percussion	1
○	SXPG135311	Front Control Panel	1
	SXPG126711	Upper Manual Keyboard 1	1
	SXPG126721	Lower Manual Keyboard 2	1
	SXPG107851	Pedal Keyboard	1
	SXPG103211	Expression	1
○	SXPG135211A	Side Control Panel	1
○	SXPG135211C	Headphones	1
○ EN	SXPG135211B	Amp & Power Supply, [EN] area	1
○ XL XR	SXPG135231B	Amp & Power Supply, [XL], [XR] areas	1
○ M MC	SXPG135241B	Amp & Power Supply, [M], [MC] areas	1
○ EZ	SXPG135261B	Amp & Power Supply, [EZ] area	1
○	SXPG135221B	Amp & Power Supply, other areas	1

MAIN MAIN CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1	SVIG7810H	1 chip 8 bit Microcomputer	1
IC2	SVIGM6050211	Gate Array	1
○ IC3	SVIG05EX30-A	512K bit EP ROM	1
IC4	SVIGD446415L	64K bit SRAM	1
IC6	SVIGM74LS05	Hex Inverter O.C.	1
IC7	SVIGM74LS07	Hex Buffer O.C.	1
IC8	SVIGPC900	Photo Coupler	1
IC9, 10, 36~38, 41~43, 45, 46, 48, 49, 54	SVIGM5218L	Operational Amplifier	13
○ IC11	SVIG2000C209	2M bit Wave ROM	1
○ IC12, 13	MN6635	Digital Sound Processor LSI	2
IC14, 15	SVIGBA9221	12 bit D-A Converter	2
IC16, 17	MN74HC4051	8-channel Multiplexer	2
IC18, 19	SVIGM5238L	Operational Amplifier	2
IC20~35	MN74HC4066	Quadruple Bilateral Switch	16
IC39, 40	SVIGTC4053BP	Triple 2-channel Multiplexer	2
IC44	SVIGLM1894N	Dynamic Noise Reduction	1
IC47	SVIGM5241L	Dual VCA	1
IC50, 52, 56	SVIGMSM4011	Quadruple NAND Gate	3
IC51, 53, 57	MN3006	BBD (128-stages)	3
IC55	SVIGUPD4066B	Quadruple Bilateral Switch	1
IC58	SVIGM5216LL	Operational Amplifier	1
IC59	SVIGMSM4051R	8-channel Multiplexer	1

	Ref. No.	Part No.	Description	Per/Set
		TRANSISTORS		
S	Q1, 3	2SA1015-GR	2SA933STRS	2
S	Q2, 6, 7	2SC2320LFG	2SC1310FG	3
	Q4, 5	2SJ40CD	FET	2
		DIODES		
	D1~9, 11~23, 27, 28	MA165TA5		24
		OSCILLATORS		
	X1	SVQG43U1500A	15MHz, Quartz Oscillator	1
	X2	EF0FC4004A3	4MHz, Ceramic Oscillator	1
○	X3	SVQG43U1600T	16MHz, Quartz Oscillator	1
		COMPONENT COMBINATIONS		
	Z3	EXBP88472JM	4.7KΩ×8	1
	Z4, 5	EXKS14Z2073	1K/2KΩ, Ladder Network	2
		COILS		
	L8	SLQG13W3+6DP	9μH } M, EZ areas	1
	L9	SLQG15W33AP	15μH } M, EZ areas	1
○	L12, 13	SLQG15W23APS	15μH } M, EZ areas	2
		JACKS		
	JK1, 2	SJSG1370A	MIDI IN, MIDI OUT	2
	JK3	SJJG490A	EXT I/O (FD)	1
	JK4, 5	SJJG400A	Line Out, AUX	2
		SEMI-FIXED RESISTORS		
	VR1	EVSG0E1B223A	22KΩ B, BBD Bias	1
	VR2	EVSG0E1B104A	100KΩ B, Reverb Depth	1
		RESISTORS		
	R1	ERDS2TJ221	220Ω	1
	R2	ERDS2TJ331	330Ω	1
	R3, 4	ERDS2TJ101	100Ω	2
	R5	ERDS2TJ221	220Ω	1
	R6	ERDS2TJ472	4.7KΩ	1
	R9	ERDS2TJ102	1KΩ	1
	R10, 11	ERDS2TJ472	4.7KΩ	2
	R12	ERDS2TJ333	33KΩ	1
	R13	ERDS2TJ330	33Ω	1
	R14	ERDS2TJ681	680Ω	1
	R15	ERDS2TJ330	33Ω	1
	R16	ERDS2TJ102	1KΩ	1
	R17	ERDS2TJ332	3.3KΩ	1
	R18	ERDS2TJ471	470Ω	1
	R19	ERDS2TJ473	47KΩ	1
	R20	ERDS2TJ184	180KΩ	1
	R21~23	ERDS2TJ472	4.7KΩ	3
	R24	ERDS2TJ105	1MΩ	1
	R25	ERDS2TJ333	33KΩ	1
	R26	ERDS2TJ222	2.2KΩ	1
	R33	ERDS2TJ105	1MΩ	1
	R35	ERDS2TJ474	470KΩ	1
	R36	ERDS2TJ124	120KΩ	1
	R37	ERDS2TJ184	180KΩ	1
	R38	ERDS2TJ474	470KΩ	1

Ref. No.	Part No.	Description	Per/Set
R39	ERDS2TJ124	120KΩ	1
R40	ERDS2TJ184	180KΩ	1
R41	ERDS2TJ474	470KΩ	1
R42	ERDS2TJ124	120KΩ	1
R43	ERDS2TJ104	100KΩ	1
R44	ERDS2TJ474	470KΩ	1
R45	ERDS2TJ124	120KΩ	1
R46	ERDS2TJ104	100KΩ	1
R47	ERDS2TJ222	2.2KΩ	1
R48	ERDS2TJ332	3.3KΩ	1
R49	ERDS2TJ153	15KΩ	1
R50	ERDS2TJ683	68KΩ	1
R51	ERDS2TJ332	3.3KΩ	1
R52	ERDS2TJ102	1KΩ	1
R54, 55	ERDS2TJ471	470Ω	2
R56	ERDS2TJ123	12KΩ	1
R57, 58	ERDS2TJ471	470Ω	2
R61, 62	ERDS2TJ472	4.7KΩ	2
R63	ERDS2TJ151	150Ω	1
R64, 65	ERDS2TJ331	330Ω	2
R66	ERDS2TJ473	47KΩ	1
R67	ERDS2TJ151	150Ω	1
R68, 69	ERDS2TJ331	330Ω	2
R70	ERDS2TJ473	47KΩ	1
R71	ERDS2TJ151	150Ω	1
R72, 73	ERDS2TJ331	330Ω	2
R74	ERDS2TJ473	47KΩ	1
R75	ERDS2TJ151	150Ω	1
R76, 77	ERDS2TJ331	330Ω	2
R78	ERDS2TJ473	47KΩ	1
R79	ERDS2TJ151	150Ω	1
R80, 81	ERDS2TJ331	330Ω	2
R82	ERDS2TJ473	47KΩ	1
R83	ERDS2TJ151	150Ω	1
R84, 85	ERDS2TJ331	330Ω	2
R86	ERDS2TJ473	47KΩ	1
R87	ERDS2TJ151	150Ω	1
R88, 89	ERDS2TJ331	330Ω	2
R90	ERDS2TJ473	47KΩ	1
R91	ERDS2TJ151	150Ω	1
R92, 93	ERDS2TJ331	330Ω	2
R94	ERDS2TJ473	47KΩ	1
R95	ERDS2TJ683	68KΩ	1
R96	ERDS2TJ224	220KΩ	1
R97	ERDS2TJ223	22KΩ	1
R98	ERDS2TJ151	150Ω	1
R99, 100	ERDS2TJ331	330Ω	2
R101	ERDS2TJ473	47KΩ	1
R102	ERDS2TJ151	150Ω	1
R103, 104	ERDS2TJ331	330Ω	2
R105	ERDS2TJ473	47KΩ	1
R106	ERDS2TJ151	150Ω	1
R107, 108	ERDS2TJ331	330Ω	2
R109	ERDS2TJ473	47KΩ	1
R110	ERDS2TJ151	150Ω	1
R111, 112	ERDS2TJ331	330Ω	2
R113	ERDS2TJ473	47KΩ	1
R114	ERDS2TJ151	150Ω	1
R115, 116	ERDS2TJ331	330Ω	2
R117	ERDS2TJ473	47KΩ	1
R118	ERDS2TJ151	150Ω	1
R119, 120	ERDS2TJ331	330Ω	2
R121	ERDS2TJ473	47KΩ	1
R122	ERDS2TJ151	150Ω	1
R123, 124	ERDS2TJ331	330Ω	2
R125	ERDS2TJ473	47KΩ	1
R126	ERDS2TJ151	150Ω	1
R127, 128	ERDS2TJ331	330Ω	2

Ref. No.	Part No.	Description	Per/Set
R129	ERDS2TJ473	47KΩ	1
R130	ERDS2TJ333	33KΩ	1
R132~135	ERDS2TJ471	470Ω	4
R136	ERDS2TJ183	18KΩ	1
R138	ERDS2TJ103	10KΩ	1
R139	ERDS2TJ682	6.8KΩ	1
R140~145	ERDS2TJ103	10KΩ	6
R146~148	ERDS2TJ223	22KΩ	3
R150~154	ERDS2TJ223	22KΩ	5
R156, 157	ERDS2TJ223	22KΩ	2
R158	ERDS2TJ473	47KΩ	1
R159	ERDS2TJ153	15KΩ	1
R160	ERDS2TJ472	4.7KΩ	1
R161~164	ERDS2TJ473	47KΩ	4
R165	ERDS2TJ472	4.7KΩ	1
R166~169	ERDS2TJ473	47KΩ	4
R170	ERDS2TJ223	22KΩ	1
R171	ERDS2TJ332	3.3KΩ	1
R172	ERDS2TJ472	4.7KΩ	1
R173	ERDS2TJ104	100KΩ	1
R174	ERDS2TJ473	47KΩ	1
R175	ERDS2TJ683	68KΩ	1
R176	ERDS2TJ333	33KΩ	1
R177	ERDS2TJ154	150KΩ	1
R178	ERDS2TJ473	47KΩ	1
R179, 180	ERDS2TJ331	330Ω	2
R181	ERDS2TJ681	680Ω	1
R182	ERDS2TJ223	22KΩ	1
R183	ERDS2TJ334	330KΩ	1
R184	ERDS2TJ472	4.7KΩ	1
R185	ERDS2TJ474	470KΩ	1
R186, 187	ERDS2TJ472	4.7KΩ	2
R188	ERDS2TJ681	680Ω	1
R189	ERDS2TJ682	6.8KΩ	1
R190~192	ERDS2TJ473	47KΩ	3
R197	ERDS2TJ682	6.8KΩ	1
R198	ERDS2TJ334	330KΩ	1
R199	ERDS2TJ222	2.2KΩ	1
R200	ERDS2TJ153	15KΩ	1
R201	ERDS2TJ473	47KΩ	1
R202	ERDS2TJ154	150KΩ	1
R203	ERDS2TJ223	22KΩ	1
R204	ERDS2TJ473	47KΩ	1
R205	ERDS2TJ153	15KΩ	1
R206	ERDS2TJ823	82KΩ	1
R207	ERDS2TJ222	2.2KΩ	1
R208	ERDS2TJ152	1.5KΩ	1
R209	ERDS2TJ154	150KΩ	1
R210	ERDS2TJ101	100Ω	1
○ [F] R211 ⚠	ERQ14AJ2R0	2Ω, 1/4W, Fuse Type	1
[F] R212, 213 ⚠	ERD2FCJ4R7	4.7Ω, 1/4W, Fuse Type	2
R214	ERDS2TJ102	1KΩ	1
R215	ERDS2TJ473	47KΩ	1
R216, 217	ERDS2TJ223	22KΩ	2
R218	ERDS2TJ473	47KΩ	1
R219	ERDS2TJ474	470KΩ	1
R220, 221	ERDS2TJ333	33KΩ	2
R222	ERDS2TJ105	1MΩ	1
R223	ERDS2TJ184	180KΩ	1
R224, 225	ERDS2TJ332	3.3KΩ	2
R226	ERDS2TJ184	180KΩ	1
R227	ERDS2TJ153	15KΩ	1
R228	ERDS2TJ103	10KΩ	1
R229	ERDS2TJ154	150KΩ	1
R230	ERDS2TJ333	33KΩ	1
[F] R231 ⚠	ERD2FCG220	22Ω, 1/4W, Fuse Type	1
R232	ERDS2TJ154	150KΩ	1

Ref. No.	Part No.	Description	Per/Set
R233, 234	ERDS2TJ153	15KΩ	2
R235	ERDS2TJ223	22KΩ	1
R236	ERDS2TJ184	180KΩ	1
R237, 238	ERDS2TJ332	3.3KΩ	2
R239	ERDS2TJ184	180KΩ	1
R240	ERDS2TJ153	15KΩ	1
R241	ERDS2TJ103	10KΩ	1
R242	ERDS2TJ154	150KΩ	1
R243	ERDS2TJ333	33KΩ	1
[F] R244 ⚠	ERD2FCG220	22Ω, 1/4W, Fuse Type	1
R245	ERDS2TJ154	150KΩ	1
R246	ERDS2TJ153	15KΩ	1
R247	ERDS2TJ103	10KΩ	1
R248~253	ERDS2TJ474	470KΩ	6
R254~258	ERDS2TJ153	15KΩ	5
R259	ERDS2TJ223	22KΩ	1
R260	ERDS2TJ184	180KΩ	1
R261, 262	ERDS2TJ332	3.3KΩ	2
R263	ERDS2TJ184	180KΩ	1
R264	ERDS2TJ153	15KΩ	1
R265	ERDS2TJ103	10KΩ	1
R266	ERDS2TJ154	150KΩ	1
R267	ERDS2TJ333	33KΩ	1
[F] R268 ⚠	ERD2FCG220	22Ω, 1/4W, Fuse Type	1
R269	ERDS2TJ154	150KΩ	1
R270	ERDS2TJ103	10KΩ	1
R271	ERDS2TJ223	22KΩ	1
R272	ERDS2TJ103	10KΩ	1
R273	ERDS2TJ223	22KΩ	1
R274	ERDS2TJ154	150KΩ	1
R275	ERDS2TJ151	150Ω	1
Ⓕ R276 ⚠	ERG1ANJ121	120Ω, 1W, Flame-Proof	1
R277	ERDS2TJ473	47KΩ	1
R278	ERDS2TJ222	2.2KΩ	1
R279	ERDS2TJ151	150Ω	1
R280	ERDS2TJ103	10KΩ	1
R281	ERDS2TJ473	47KΩ	1
R282	ERDS2TJ103	10KΩ	1
R283	ERDS2TJ223	22KΩ	1
R284	ERDS2TJ103	10KΩ	1
R285	ERDS2TJ472	4.7KΩ	1
R286	ERDS2TJ103	10KΩ	1
R287	ERDS2TJ223	22KΩ	1
R288	ERDS2TJ103	10KΩ	1
R289, 290	ERDS2TJ223	22KΩ	2
R291	ERDS2TJ100	10Ω	1
○ [F] R292 ⚠	ERQ14AJ2R0	2Ω, 1/4W, Fuse Type	1
R293	ERDS2TJ101	100Ω	1
R294	ERDS2TJ152	1.5KΩ	1
R296	ERDS2TJ682	6.8KΩ	1
R300, 301	ERDS2TJ472	4.7KΩ	2
R302	ERDS2TJ103	10KΩ	1
R303	ERDS2TJ104	100KΩ	1
R304	ERDS2TJ225	2.2MΩ	1
R305	ERDS2TJ333	33KΩ	1

CAPACITORS

○ C1, 2	ECKR1E473ZV	0.047μF	2
C3	ECQG1H102KZ	0.001μF	1
○ C4, 6	ECKR1E473ZV	0.047μF	2
C7	ECEA0JU331	330μF, 6.3V	1
C8	ECEA0JU102	1000μF, 6.3V	1
C9	ECEA1HU010	1μF, 50V	1
Ⓣ C10	ECQV1H104JZ	0.1μF	1
○ C12	ECCR1H221J	220PF	1
○ C13	ECKR1E473ZV	0.047μF	1

Ref. No.	Part No.	Description	Per/Set
Ⓜ C16	ECEA50M1R	1μF, 50V	1
C17	ECQM1H153KV	0.015μF	1
Ⓣ C18	ECQV1H104JZ	0.1μF	1
C19	ECQM1H153KV	0.015μF	1
Ⓣ C20	ECQV1H104JZ	0.1μF	1
Ⓣ C21	ECQV1H473JZ	0.047μF	1
Ⓣ C22	ECQV1H474JZ	0.47μF	1
C23	ECQM1H103KV	0.01μF	1
Ⓣ C24	ECQV1H104JZ	0.1μF	1
C25	EECF5R5U104	0.1F, 5.5V, Liquid Electrolyte Double Layer	1
C26	ECEA1HU010	1μF, 50V	1
○ C27, 28	ECCR1H220J	22PF	2
○ C29~32	ECKR1E473ZV	0.047μF	4
C38	ECEA0JU331	330μF, 6.3V	1
○ C39, 40	ECKR1E473ZV	0.047μF	2
C46	ECEA0JU331	330μF, 6.3V	1
○ C47~50	ECKR1E473ZV	0.047μF	4
○ C52~55	ECKR1E473ZV	0.047μF	4
○ C57	ECKR1E473ZV	0.047μF	1
○ C59	ECKR1E473ZV	0.047μF	1
○ C60	ECCR1H221J	220PF	1
C62	ECEA0JU470	47μF, 6.3V	1
C63	ECQG1H472KZ	0.0047μF	1
C64	ECQG1H102KZ	0.001μF	1
C65	ECQG1H472KZ	0.0047μF	1
C66	ECQG1H102KZ	0.001μF	1
C67	ECQG1H472KZ	0.0047μF	1
C68	ECQG1H102KZ	0.001μF	1
C69	ECQG1H472KZ	0.0047μF	1
C70	ECQG1H102KZ	0.001μF	1
C71	ECQG1H472KZ	0.0047μF	1
C72	ECQG1H102KZ	0.001μF	1
C73	ECQG1H472KZ	0.0047μF	1
C74	ECQG1H102KZ	0.001μF	1
C75	ECQG1H472KZ	0.0047μF	1
C76	ECQG1H102KZ	0.001μF	1
C77	ECQG1H472KZ	0.0047μF	1
C78	ECQG1H102KZ	0.001μF	1
○ C79	ECCR1H331J	330PF	1
○ C80	ECCR1H221J	220PF	1
C81	ECQG1H102KZ	0.001μF	1
C82	ECQG1H472KZ	0.0047μF	1
C83	ECQG1H102KZ	0.001μF	1
C84	ECQG1H472KZ	0.0047μF	1
C85	ECQG1H102KZ	0.001μF	1
C86	ECQG1H472KZ	0.0047μF	1
C87	ECQG1H102KZ	0.001μF	1
C88	ECQG1H472KZ	0.0047μF	1
C89	ECQG1H102KZ	0.001μF	1
C90	ECQG1H472KZ	0.0047μF	1
C91	ECQG1H102KZ	0.001μF	1
C92	ECQG1H472KZ	0.0047μF	1
C93	ECQG1H102KZ	0.001μF	1
C94	ECQG1H472KZ	0.0047μF	1
C95	ECQG1H102KZ	0.001μF	1
C96	ECQG1H472KZ	0.0047μF	1
C97	ECQG1H102KZ	0.001μF	1
○ C98	ECCR1H681J	680PF	1
○ C101	ECKR1E473ZV	0.047μF	1
○ C102	ECCR1H221J	220PF	1
C104, 105	ECEA0JU101	100μF, 6.3V	2
○ C111	ECCR1H471J	470PF	1
C112	ECQG1H222KZ	0.0022μF	1
○ C113, 114	ECCR1H471J	470PF	2
○ C115	ECCR1H101J	100PF	1
C116	ECQG1H222KZ	0.0022μF	1
C117	ECQG1H152KZ	0.0015μF	1

Ref. No.	Part No.	Description	Per/Set
C118	ECQG1H222KZ	0.0022μF	1
○ C119, 120	ECCR1H471J	470PF	2
○ C121	ECCR1H101J	100PF	1
C122	ECQG1H222KZ	0.0022μF	1
○ C123	ECCR1H470J	47PF	1
C124	ECEA1HU010	1μF, 50V	1
C125	ECEA1EU470	47μF, 25V	1
C126	ECEA1CU470	47μF, 16V	1
C127	ECQG1H472KZ	0.0047μF	1
C128	ECQG1H102KZ	0.001μF	1
C129	ECEA1HU010	1μF, 50V	1
Ⓣ C130	ECQV1H104JZ	0.1μF	1
C131	ECEA1EU100	10μF, 25V	1
C132	ECQG1H332KZ	0.0033μF	1
C133	ECQG1H102KZ	0.001μF	1
Ⓣ C134	ECQV1H473JZ	0.047μF	1
○ C135	ECCR1H100J	10PF	1
Ⓝ C136, 137	ECEA1HN010S	1μF, 50V	2
○ C138	ECCR1H101J	100PF	1
C139	ECEA1HU010	1μF, 50V	1
C140	ECQM1H223KV	0.022μF	1
○ C141	ECCR1H681J	680PF	1
○ C142	ECCR1H471J	470PF	1
○ C143	ECCR1H151J	150PF	1
C149	ECEA1HU010	1μF, 50V	1
○ C150	ECCR1H470J	47PF	1
Ⓣ C151	ECQV1H334JZ	0.33μF	1
C153	ECEA1HU010	1μF, 50V	1
C154	ECEA0JU331	330μF, 6.3V	1
C155, 156	ECEA1CU101	100μF, 16V	2
C157	ECEA0JU331	330μF, 6.3V	1
C159	ECEA1CU470	47μF, 16V	1
○ C160	ECCR1H471J	470PF	1
C161	ECQG1H222KZ	0.0022μF	1
○ C162	ECCR1H101J	100PF	1
Ⓣ C163	ECQV1H104JZ	0.1μF	1
○ C165, 166	ECCR1H151J	150PF	2
○ C167	ECCR1H681J	680PF	1
C168	ECEA1CU470	47μF, 16V	1
○ C169, 170	ECCR1H151J	150PF	2
○ C171	ECCR1H681J	680PF	1
C172	ECEA1CU470	47μF, 16V	1
C173	ECEA1EU100	10μF, 25V	1
Ⓣ C174, 175	ECQV1H334JZ	0.33μF	2
C176, 177	ECEA1EU100	10μF, 25V	2
○ C179, 180	ECCR1H151J	150PF	2
○ C181	ECCR1H681J	680PF	1
C182	ECEA1CU470	47μF, 16V	1
○ C184, 185	ECCR1H331J	330PF	2
Ⓝ C187	ECEA1HN010S	1μF, 50V	1
C188, 189	ECEA1HU010	1μF, 50V	2
C200	ECEA1HU010	1μF, 50V	1
C202, 203	ECEA1HU010	1μF, 50V	2
○ C205	ECCR1H220J	22PF	1
○ C206	ECKR1E473ZV	0.047μF	1
○ C207	ECCR1H331J	330PF	1
○ C208	ECKR1E473ZV	0.047μF	1
○ C209	ECCR1H331J	330PF (M, EZ areas)	1
○ C210, 211	ECKR1E473ZV	0.047μF (M, EZ areas)	2
C212	ECEA0JU331	330μF, 6.3V (M, EZ areas)	1
C213	ECKR1E473ZV	0.047μF (M, EZ areas)	1

DSG DIGITAL SOUND GENERATOR CIRCUIT

	Ref. No.	Part No.	Description	Per/Set
		INTEGRATED CIRCUITS		
○	IC1	SVIG2000C210	2M bit Wave ROM	1
○	IC2, 3	MN6635	Digital Sound Processor	2
	IC4, 5	SVIGBA9221	12 bit D-A Converter	2
	IC6, 7	MN74HC4051	8-channel Multiplexer	2
	IC8, 9	SVIGM5238L	Operational Amplifier	2
	IC10, 11	SVIGM5218L	Operational Amplifier	2
	IC12~27	MN74HC4066	Quadruple Bilateral Switch	16
		COMPONENT COMBINATIONS		
	Z1, 2	EXKS14Z2073	1K/2KΩ, Ladder Network	2
		QUARTZ OSCILLATOR		
○	X1	SVQG43U1600T	16MHz, Quartz Oscillator	1
		RESISTORS		
	R5, 6	ERDS2TJ471	470Ω	2
	R7	ERDS2TJ123	12KΩ	1
	R8~11	ERDS2TJ471	470Ω	4
	R12	ERDS2TJ123	12KΩ	1
	R13, 14	ERDS2TJ471	470Ω	2
	R15, 16	ERDS2TJ472	4.7KΩ	2
	R17, 18	ERDS2TJ333	33KΩ	2
	R21	ERDS2TJ151	150Ω	1
	R22, 23	ERDS2TJ331	330Ω	2
	R24	ERDS2TJ473	47KΩ	1
	R25	ERDS2TJ151	150Ω	1
	R26, 27	ERDS2TJ331	330Ω	2
	R28	ERDS2TJ473	47KΩ	1
	R29	ERDS2TJ151	150Ω	1
	R30, 31	ERDS2TJ331	330Ω	2
	R32	ERDS2TJ473	47KΩ	1
	R33	ERDS2TJ151	150Ω	1
	R34, 35	ERDS2TJ331	330Ω	2
	R36	ERDS2TJ473	47KΩ	1
	R37	ERDS2TJ151	150Ω	1
	R38, 39	ERDS2TJ331	330Ω	2
	R40	ERDS2TJ473	47KΩ	1
	R41	ERDS2TJ151	150Ω	1
	R42, 43	ERDS2TJ331	330Ω	2
	R44	ERDS2TJ473	47KΩ	1
	R45	ERDS2TJ151	150Ω	1
	R46, 47	ERDS2TJ331	330Ω	2
	R48	ERDS2TJ473	47KΩ	1
	R49	ERDS2TJ151	150Ω	1
	R50, 51	ERDS2TJ331	330Ω	2
	R52	ERDS2TJ473	47KΩ	1
	R53	ERDS2TJ151	150Ω	1
	R54, 55	ERDS2TJ331	330Ω	2
	R56	ERDS2TJ473	47KΩ	1
	R57	ERDS2TJ151	150Ω	1
	R58, 59	ERDS2TJ331	330Ω	2
	R60	ERDS2TJ473	47KΩ	1
	R61	ERDS2TJ151	150Ω	1
	R62, 63	ERDS2TJ331	330Ω	2
	R64	ERDS2TJ473	47KΩ	1
	R65	ERDS2TJ151	150Ω	1
	R66, 67	ERDS2TJ331	330Ω	2
	R68	ERDS2TJ473	47KΩ	1
	R69	ERDS2TJ151	150Ω	1
	R70, 71	ERDS2TJ331	330Ω	2
	R72	ERDS2TJ473	47KΩ	1
	R73	ERDS2TJ151	150Ω	1
	R74, 75	ERDS2TJ331	330Ω	2
	R76	ERDS2TJ473	47KΩ	1
	R77	ERDS2TJ151	150Ω	1
	R78, 79	ERDS2TJ331	330Ω	2
	R80	ERDS2TJ473	47KΩ	1
	R81	ERDS2TJ151	150Ω	1
	R82, 83	ERDS2TJ331	330Ω	2
	R84	ERDS2TJ473	47KΩ	1
		CAPACITORS		
○	C6, 7	ECCR1H220J	22PF	2
○	C8~10	ECKR1E473ZV	0.047μF	3
	C11	ECEA1HU010	1μF, 50V	1
○	C12	ECCR1H221J	220PF	1
	C13	ECEA0JU101	100μF, 6.3V	1
○	C14, 15	ECKR1E473ZV	0.047μF	2
	C16	ECEA1HU010	1μF, 50V	1
○	C17	ECCR1H221J	220PF	1
	C18	ECEA0JU101	100μF, 6.3V	1
○	C19	ECKR1E473ZV	0.047μF	1
	C20	ECQG1H472KZ	0.0047μF	1
	C21	ECQG1H102KZ	0.001μF	1
	C22	ECQG1H472KZ	0.0047μF	1
	C23	ECQG1H102KZ	0.001μF	1
	C24	ECQG1H472KZ	0.0047μF	1
	C25	ECQG1H102KZ	0.001μF	1
	C26	ECQG1H472KZ	0.0047μF	1
	C27	ECQG1H102KZ	0.001μF	1
	C28	ECQG1H472KZ	0.0047μF	1
	C29	ECQG1H102KZ	0.001μF	1
	C30	ECQG1H472KZ	0.0047μF	1
	C31	ECQG1H102KZ	0.001μF	1
	C32	ECQG1H472KZ	0.0047μF	1
	C33	ECQG1H102KZ	0.001μF	1
	C34	ECQG1H472KZ	0.0047μF	1
	C35	ECQG1H102KZ	0.001μF	1
	C36	ECQG1H472KZ	0.0047μF	1
	C37	ECQG1H102KZ	0.001μF	1
	C38	ECQG1H472KZ	0.0047μF	1
	C39	ECQG1H102KZ	0.001μF	1
	C40	ECQG1H472KZ	0.0047μF	1
	C41	ECQG1H102KZ	0.001μF	1
	C42	ECQG1H472KZ	0.0047μF	1
	C43	ECQG1H102KZ	0.001μF	1
	C44	ECQG1H472KZ	0.0047μF	1
	C45	ECQG1H102KZ	0.001μF	1
	C46	ECQG1H472KZ	0.0047μF	1
	C47	ECQG1H102KZ	0.001μF	1
	C48	ECQG1H472KZ	0.0047μF	1
	C49	ECQG1H102KZ	0.001μF	1
	C50	ECQG1H472KZ	0.0047μF	1
	C51	ECQG1H102KZ	0.001μF	1
	C52	ECEA0JU470	47μF, 6.3V	1
○	C53, 54	ECCR1H681J	680PF	2
○	C55, 56	ECKR1E473ZV	0.047μF	2
○	C58~61	ECKR1E473ZV	0.047μF	4

DP DRUM PERCUSSION CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1	MN50015PGQ	Gate Array	1
IC2	MN231001PGW	Wave ROM	1
IC3	SVIGHA17008P	8 bit D-A Converter	1
IC4	SVIGMSM4051R	8-channel Multiplexer	1
IC5	SVIGM5238L	Operational Amplifier	1
COMPONENT COMBINATION			
Z1	EXKS14Z2073	1K/2KΩ, Ladder Network	1
RESISTORS			
R4	ERDS2TJ472	4.7KΩ	1
R5	ERDS2TJ103	10KΩ	1
R6, 7	ERDS2TJ471	470Ω	2
R8	ERDS2TJ682	6.8KΩ	1
R9~11	ERDS2TJ222	2.2KΩ	3
R12, 14	ERDS2TJ223	22KΩ	2
R13	ERDS2TJ104	100KΩ	1
CAPACITORS			
C4	ECEA1HU010	1μF, 50V	1
○ C5, 6	ECKR1E473ZV	0.047μF	2
○ C9	ECCR1H151J	150PF	1
○ C10	ECKR1E473ZV	0.047μF	1
○ C12	ECCR1H681J	680PF	1
○ C13	ECCR1H680J	68PF	1
○ C14	ECKR1E473ZV	0.047μF	1

Ref. No.	Part No.	Description	Per/Set
OSCILLATOR			
X1	EF0FC4004A3	4MHz, Ceramic Oscillator	1
SWITCHES			
SW1	SSSG1011A	Transpose	1
○	SSHG1045A	Push Switch	83
VARIABLE RESISTOR			
VR1	EVD06510B24G	20KΩ B, Tempo Control	1
RESISTORS			
R1	ERDS2TJ222	2.2KΩ	1
R2~6	ERDS2TJ103	10KΩ	5
R7~10	ERDS2TJ152	1.5KΩ	4
R11~32	ERDS2TJ470	47Ω	22
R33, 34	ERDS2TJ472	4.7KΩ	2
R35	ERDS2TJ222	2.2KΩ	1
R36~59	ERDS2TJ152	1.5KΩ	24
CAPACITORS			
Ⓚ C1	ECEA0JK470	47μF, 6.3V	1
○ C2	ECKR1E473ZV	0.047μF	2
○ C3	ECCR1H471J	470PF	1
○ C4	ECKR1E473ZV	0.047μF	1

CPSL SIDE CONTROL PANEL CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1	MN15524PGP	1 chip 4 bit Microcomputer	1
IC2~5	SVIGM74LS07	Hex Buffer O.C.	4
TRANSISTORS			
Q1~4	2SA830B		4
Q5, 6	2SC1047C		2
DIODES			
D2~87, 169, 170	MA165TA5		88
LIGHT EMITTING DIODES			
○ D88~99, 102~166, 168, 171, 172	SVDGSEL4117R	LED (red)	80
○ D100, 101, 167	SVDGSEL4417G	LED (green)	3

CP FRONT CONTROL PANEL CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1	SVIGM74LS138	Decoder	1
IC2~4	SVIGM74LS174	Latch	3
TRANSISTOR			
S Q1	2SA1015-GR	2SA933STRS	1
DIODES			
D1~16	MA165TA5		16
LIGHT EMITTING DIODES			
○ D17, 18, 20~22, 26	SVDGSEL4117R	LED (red)	6
○ D19, 23~25, 27~32	SVDGSEL4417G	LED (green)	10
SWITCHES			
○	SSHG1045A	Push Switch	16

Ref. No.	Part No.	Description	Per/Set
RESISTORS			
R1	ERDS2TJ332	3.3KΩ	1
R2	ERDS2TJ103	10KΩ	1
R3~18	ERDS2TJ221	220Ω	16
CAPACITORS			
○ C1, 2	ECKR1E473ZV	0.047μF	2

MKB MANUAL KEYBOARD CIRCUIT

	Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUIT				
	IC1	SVIGM74LS138	Decoder	1
DIODES				
S	D1~44	MA162A	Switching	44
COMPONENT COMBINATION				
	Z1	EXATA223S	Noise Suppression Filter	1
SWITCHES				
		SSPG6001A	Rubber Switch (6 continuous)	5
		SSPG7001A	Rubber Switch (7 continuous)	2
CAPACITORS				
	○ C1	ECKR1E473ZV	0.047μF	1
	C2	ECEA0JU470	47μF, 6.3V	1

PKB PEDAL KEYBOARD CIRCUIT

	Ref. No.	Part No.	Description	Per/Set
DIODES				
S	D1~13, 16	MA162A	Switching	14
SWITCHES				
		SHGG50A	Rubber Switch (5 continuous)	3

EXP EXPRESSION CIRCUIT

Ref. No.	Part No.	Description	Per/Set
Cds			
	SVEG5	Light Sensitive Device	1

AS AMP & POWER SUPPLY CIRCUIT

	Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS				
	IC1	SVIGM5F7815	Voltage Regulator	1
	IC2	SVIGM5F7915	Voltage Regulator	1
	IC3	SVIGM5291P	Switching Regulator	1
TRANSISTORS				
S	Q1~3, 5, 6, 11	2SC2320LFG	2SC1310FG	6
	Q4	2SB953A		1
	Q7	2SA1123S		1
	Q8	2SC1815GR		1
	Q9	2SD1277A		1
	Q10	2SB951A		1
DIODES				
	D1, 2 ⚠	SVDGERA1502Y	Rectifier	2
	D3~6 ⚠	SVDS3V20	Rectifier	4
	D7~9	MA165TA5		3
	D10	SVDGRK14		1
○	D11	MA4062	Zener	1
	D12	MA2062LF	Zener	1
COILS & LINE FILTER				
	L1	SLTGLF3	Line Filter	1
	L2 EZ ⚠	SLQG10W2D1	9μF } [EZ] area	1
	L3 EZ ⚠	SLCGR8121D		1
	L3 ⚠	SLCG1A121T		1
○	L5	SLCSC561KUS	560μH	1
RELAY				
	RL1	SSYGMR30112		1
JACK				
	JK1 ⚠	SJVD0203B	AC Inlet	1
VOLTAGE SELECTOR				
	SW1 ⚠	SSRG100A	Voltage Selector, Except for [M], [MC], [EN], [EZ] areas	1

Ref. No.	Part No.	Description	Per/Set
FUSES			
○ F1, 2 M MC ⚠	XBA1C40NU100	4A, 125V, [M], [MC] areas	2
F2 EN EZ ⚠	XBA2C16TB0	T1.6A, 250V } [EN], [EZ] areas	1
F4 EN EZ ⚠	XBA2C40TB0	T4A, 250V } [EN], [EZ] areas	1
F1 ⚠	XBA2C31TB0	T3.15A, 250V } Except for [M], [MC], [EN], [EZ]	1
F2, 3 ⚠	XBA2C16TB0	T1.6A, 250V } Except for [M], [MC], [EN], [EZ]	2
F4 ⚠	XBA2C40TB0	T4A, 250V } Except for [M], [MC], [EN], [EZ]	1
AC INLET COVER			
	SJS9231A	AC Inlet Cover	1
XL XR	SJS9334A	AC Inlet Cover, [XL] and [XR] areas	1
RESISTORS			
R1~3	ERDS2TJ103	10KΩ	3
R4	ERDS2TJ472	4.7KΩ	1
R5	ERDS2TJ471	470Ω	1
R6, 7	ERDS2TJ473	47KΩ	2
R8	ERDS2TJ104	100KΩ	1
R9	ERDS2TJ103	10KΩ	1
R10	ERDS2TJ473	47KΩ	1
R11	ERDS2TJ222	2.2KΩ	1
R12, 13	ERDS2TJ154	150KΩ	2
Ⓕ R14 ⚠	ERD25FVJ680	68Ω, 1/4W, Flame-Proof	1
Ⓕ R15 ⚠	ERX1ANJR47	0.47Ω, 1W, Flame-Proof	1
R16	ERDS2TJ101	100Ω	1
○ Ⓕ R17 ⚠	ERG1ANJ471	470Ω, 1W, Flame-Proof	1
R18	ERDS2TJ332	3.3KΩ	1
R19	ERDS2TJ102	1KΩ	1
R21	ERDS2TJ103	10KΩ	1
R22	ERDS2TJ332	3.3KΩ	1
R23	ERDS2TJ102	1KΩ	1
R24	ERDS2TJ472	4.7KΩ	1
R25	ERDS2TJ103	10KΩ	1
R26	ERDS2TJ152	1.5KΩ	1
R27	ERDS2TJ223	22KΩ	1
R28	ERDS2TJ682	6.8KΩ	1
R29	ERDS2TJ153	15KΩ	1
R30	ERDS2TJ472	4.7KΩ	1
R31, 32	ERDS2TJ222	2.2KΩ	2
Ⓕ R33, 34 ⚠	ERX2ANJR22	0.22Ω, 2W, Flame-Proof	2
Ⓕ R35 ⚠	ERD50FJ6R8	6.8Ω, 1/2W, Flame-Proof	1
R36	ERDS2TJ154	150KΩ	1
[F] R37, 38 ⚠	ERD2FCJ4R7	4.7Ω, 1/4W, Fuse Type	2
CAPACITORS			
○ C1 ⚠	ECKCVA1472MF	4700PF, 250V, Line Capacitor	1
C2 ⚠	ECQU2A104MN	0.1μF, 250V, Across the Line Capacitor	1
C4, 5	ECEA1VU222	2200μF, 35V	2
C8~10	ECEA1VU100	10μF, 35V	3
C11	ECQG1H102KZ	0.001μF	1
C12	ECEA0JU102	1000μF, 6.3V	1
ⓉⒻ C14	ECQV1H334JZ	0.33μF	1
C16	ECEA0JU470	47μF, 6.3V	1
○ C17	ECCR1H101J	100PF	1
C18	ECEA1VU100	10μF, 35V	1
○ C19	ECCR1H221J	220PF	1
ⓉⒻ C20	ECQV1H473JZ	0.047μF	1
Ⓨ C21	ECEA50Y6R8	6.8μF, 50V	1
C23	ECEA1HUR47	0.47μF, 50V	1
C24	ECEA1HU4R7	4.7μF, 50V	1
C25	ECEA1CU470	47μF, 16V	1
C26	ECQG1H102KZ	0.001μF	1

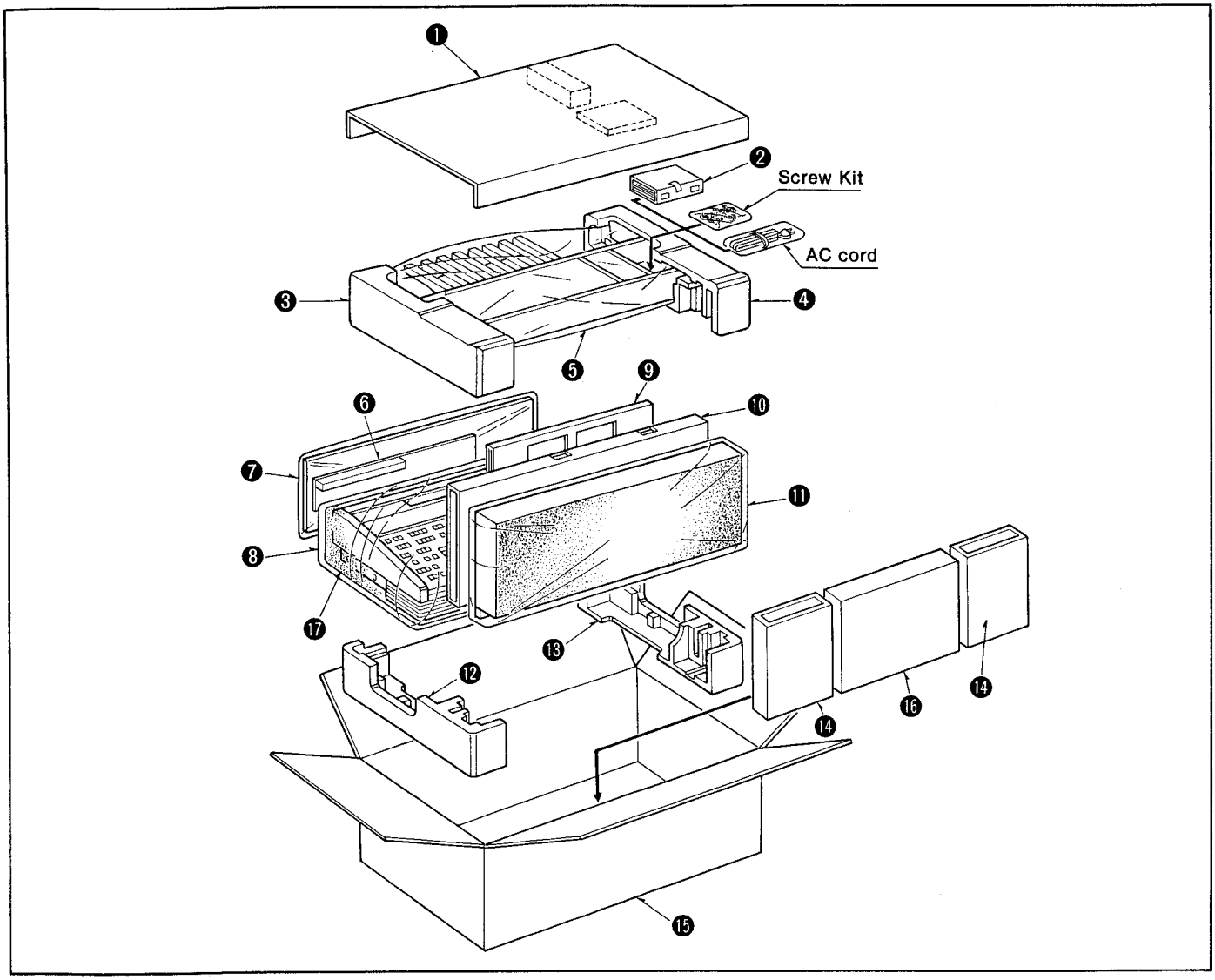
HP HEADPHONES CIRCUIT

Ref. No.	Part No.	Description	Per/Set
JACK			
JK1	SJJG100A	Headphones	1
RESISTORS			
Ⓕ R1, 2 ⚠	ERD50FJ681	680Ω, 1/2W, Flame-Proof	2

■ WIRING PARTS (See wiring connection diagram on page II-1, II-2)

Ref. No.	Part No.	Description	Per/Set
○	SWKG0239ZA	Connector with Wire	1
	SWKG0326LTA	Connector with Wire	1
○	SWKG0396ZA	Connector with Wire	1
○	SWKG04116SSA	Connector with Wire	1
○	SWKG04117ZB	Connector with Wire	1
○	SWKG06102LSA	Connector with Wire	1
○	SWKG073SSA	Connector with Wire	1
○	SWKG1068SSA	Connector with Wire	1
○	SWKG1069LSA	Connector with Wire	1
○	SWKG1335LSA	Connector with Wire	1
○	SWKG1336SSA	Connector with Wire	1
○	SWKG1337SSA	Connector with Wire	2
○	SWKG153ZA	Connector with Wire	1
○	SWKG154ZB	Connector with Wire	1
○	SWEG590A	Connector with Wire	1

PACKING

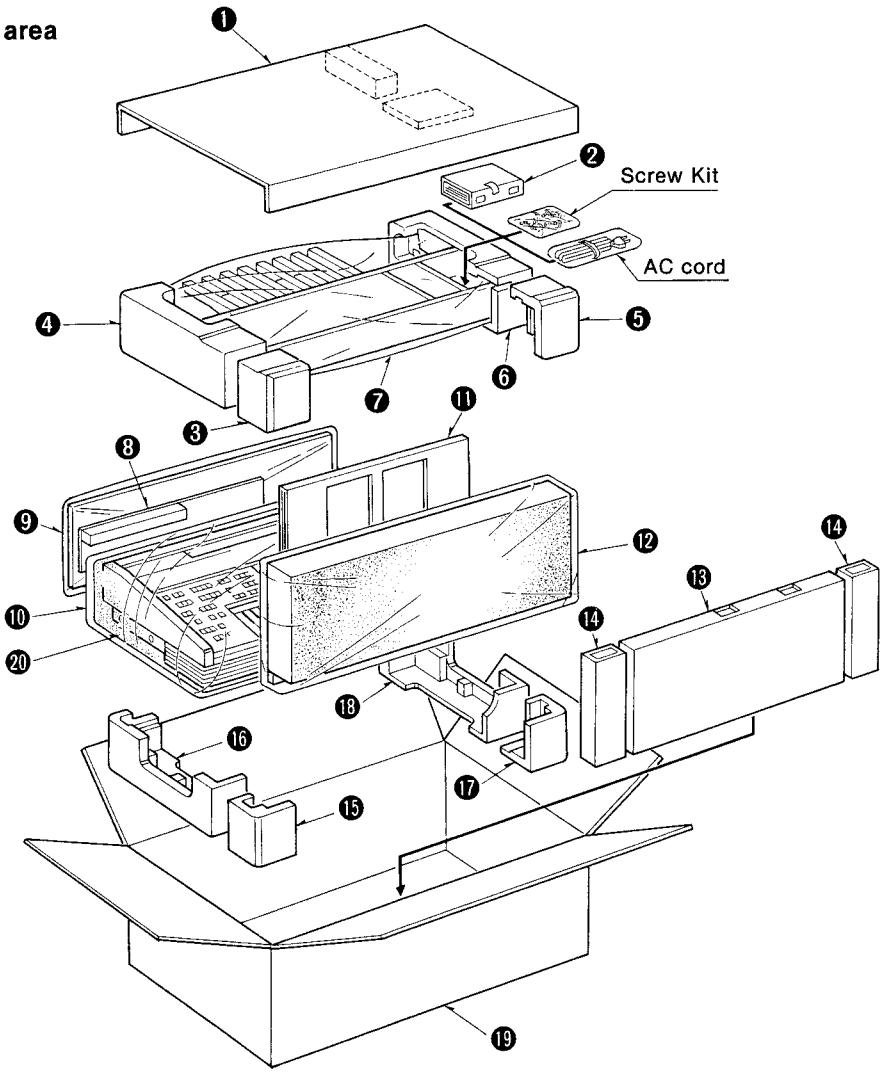


■ PACKING PARTS

Ref. No.	Part No.	Description	Per/Set
	SX-EX30L (Except for [M] area)		
	SPNGEX30LE	Packing Parts Ass'y	1
1	SPNG1813A	Pad	1
2	SPNG1812A	Carton Box, Bracket	1
3	SPNG5648A	Corner Pad	1
4	SPNG5649A	Corner Pad	1
5	SPHG1630A	Polyethlene Bag, Pedal Box	1
6	SPNG1792A	Pad, Pedal	1
7	SPHG1641A	Polyethlene Bag, Rear Board	1
8	SPHG1630A	Polyethlene Bag, Cabinet	1
9	SPNG1791A	Carton Box, Music Rack	1
10	SPNG1790A	Carton Box, Planks	1
11	SPHG1630A	Polyethlene Bag, Speaker Box	1
12	SPNG5646A	Corner Pad	1
13	SPNG5647A	Corner Pad	1
14	SPNG1793A	Pad, Bench	2
15	SPNG1789A	Carton Box	1
16	SPNG1784A	Carton Box, Bench	1
17	SPHG1660A	Protection Sheet, Cabinet	1

Ref. No.	Part No.	Description	Per/Set
	SX-EX30		
	SPNGEX30N	Packing Parts Ass'y	1
1	SPNG1813A	Pad	1
2	SPNG1812A	Carton Box, Bracket	1
3	SPNG5648A	Corner Pad	1
4	SPNG5649A	Corner Pad	1
5	SPHG1630A	Polyethlene Bag, Pedal Box	1
6	SPNG1792A	Pad, Pedal	1
7	SPHG1641A	Polyethlene Bag, Rear Board	1
8	SPHG1630A	Polyethlene Bag, Cabinet	1
10	SPNG1790A	Carton Box, Planks	1
11	SPHG1630A	Polyethlene Bag, Speaker Box	1
12	SPNG5646A	Corner Pad	1
13	SPNG5647A	Corner Pad	1
14	SPNG1793A	Pad, Bench	2
15	SPNG1796A	Carton Box	1
16	SPNG1784A	Carton Box, Bench	1
17	SPHG1660A	Protection Sheet, Cabinet	1

■ Products for [M] area



Ref. No.	Part No.	Description	Per/Set
	SX-EX30L ([M] area)		
○	SPNGEX30LM	Packing Parts Ass'y	1
○ 1	SPNG1814A	Pad	1
○ 2	SPNG1812A	Carton Box, Bracket	1
○ 3	SPNG5648B	Corner Pad	1
○ 4	SPNG5648C	Corner Pad	1
○ 5	SPNG5649B	Corner Pad	1
○ 6	SPNG5649C	Corner Pad	1
○ 7	SPHG1630A	Polyethlene Bag, Pedal Box	1
○ 8	SPNG1792A	Pad, Pedal	1
○ 9	SPHG1641A	Polyethlene Bag, Rear Board	1
○ 10	SPHG1630A	Polyethlene Bag, Cabinet	1

Ref. No.	Part No.	Description	Per/Set
○ 11	SPNG1791A	Carton Box, Music Rack	1
○ 12	SPHG1630A	Polyethlene Bag, Speaker Box	1
○ 13	SPNG1815A	Carton Box, Planks	1
○ 14	SPNG1816A	Pad, Planks	2
○ 15	SPNG5646B	Corner Pad	1
○ 16	SPNG5646C	Corner Pad	1
○ 17	SPNG5647B	Corner Pad	1
○ 18	SPNG5647C	Corner Pad	1
○ 19	SPNG1795A	Carton Box	1
○ 20	SPHG1660A	Protection Sheet, Cabinet	1